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ABSTRACT

This paper on the pre-college teaching of geography documents the teaching of geography in the United States from 1800 to the present and projects it into the future. Analyses of how views on physical, regional, and human geography have affected the elementary and secondary curricula and a history of the incorporation of geography into the social studies curriculum in the 1940's are included. In the sixties, the High School Geography Project (HSGP) and various elementary level projects shaped elementary and secondary geography into an interdisciplinary and conceptually oriented subject with emphases in affective learning and urban studies. Critical elements for geography education envisioned for the future are decision making, valuing, and resolving conflict. Traditional tools for locational analysis applied to these elements will validate geography's importance in the curriculum. Conceptual models for these processes and specific examples of their application -- deciding whether to build the Alaska pipeline, investigating the values behind locating a parking lot, and resolving a conflict over the location of the future settlement of Jamestown -- included in the document provide direction for teaching the geography of the future. An annotated bibliography on geography and the teaching of geography is also included. (JH)

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GEOGRAPHY IN ELEMENTARY AND SECONDARY EDUCATION: TRADITION TO OPPORTUNITY

by

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PREFACE

This paper is one of a series generated by the ERIC Clearinghouse for Social Studies/Social Science Education (ERIC/ChESS), reviewing trends in the pre-college teaching of the various social sciences. Other papers in the series include:

Geography	Angus M. Gunn, editor, *High School Geography Project: Legacy for the Seventies*, 1972, ED 068 374
	Nicholas Helburn, editor, *Challenge and Change in College Geography*, 1972, ED 067 326
Anthropology	*Thomas L. Dynneson, *Recent Trends in Pre-College Teaching of Anthropology*, 1974
World History	William Pulliam, *The Status of World History Instruction in American Secondary Schools*, 1972, ED 072 984
Political Science	*Mary Jane Turner, *The Status of Political Science Instruction in American Secondary Schools*, 1974
Psychology	Michael Wertheimer and Richard A. Kasschau, *Teaching Psychology in Secondary Schools*, 1974
Social Psychology	*Ronald Lippitt, *The Teaching and Utilization of Social Psychology in Elementary and Secondary Education: Present and Potential*, 1974

Additional contributions in this series may be undertaken in the future, covering economics, American history, and sociology.

In addition to the "trends" papers, which are rather scholarly works describing in depth the history and current status of the pre-college teaching of the various social sciences, ERIC/ChESS has produced a number of shorter papers geared to the immediate needs of classroom teachers. They provide convenient access to well selected materials and references, along with many suggestions for teaching the subjects in the classroom. These "tips" papers include:

Economics	*Suzanne Wiggins Helburn, *Preparing to Teach Economics: Sources and Approaches*, 1971, ED 049 997
Political Science	*Mary Jane Turner, *Preparing to Teach Political Science: Sources and Approaches*, 1974
	Nicholas Helburn and Joanne L. Binkley, *18, 19, 20: Will They Vote? Suggestions and Resources for Students and Teachers*, 1972, ED 066 360

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In this paper on the pre-college teaching of geography, Vuicich and Stoltman present a thorough, documented account of how geographers and educationists have thought about, designed curricula for, and taught geography in the United States from 1800 to the present. Beginning with the amazing accomplishments of Elizabeth Crane recorded in 1826, the authors analyze how views on physical, regional, and human geography flowed and ebbed and affected the elementary and secondary social studies curricula. Lesser themes, such as "age-mate" geography and the "expanding communities of men," are also put in perspective. The climax of this historical review is an account of the High School Geography Project and its effects on current geography curricula.

Most fortunately, Vuicich and Stoltman have interpreted "trends" in geography to include the future as well as the past. Almost half of the paper is devoted to where geographic education may go in the future, taking off from some dominant current trends in general education. The trends on which the authors focus are decision making, values education, and conflict resolution. The suggestions gleaned from the authors' crystal ball provide a fascinating preview of how geography might become an even more vital subject in the future than it has been up to the present.

Irving Morrissett
Director, ERIC/ChESS
Executive Director, Social Science
Education Consortium, Inc.

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George Vuicich
Joseph Stoltman

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GEOGRAPHY IN ELEMENTARY AND SECONDARY EDUCATION:

TRADITION TO OPPORTUNITY

by

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1.0 Geography as a Tradition in Education

1.1 "Geographic Gymnastics"--The Early 1800s

CERTIFICATE

Elizabeth Crane hath been engaged, during her attendance at this school, in storing her memory, that strong and capacious storehouse of mankind, with useful ideas, lessons and information generally.

Pursuant to this end, she hath deposited in her memory for future use the multiplication and other arithmetical tables.

She hath repeated the principal divisions, oceans, islands, etc., and answered 109 questions on the map of the world. She hath recited the principal divisions, lakes, rivers, bays, gulfs, etc., and answered 141 questions on the map of North America.

She hath defined the boundaries of 12 of the United States and repeated 95 of the chief towns and 33 of the principal rivers belonging to these 12 states and answered 86 questions corresponding to the geography of that fine country.

On the map of South America, she hath committed to memory the different countries belonging to that great peninsula and repeated 58 chief towns and 33 of the principal rivers and answered 39 questions corresponding with its geography.

Let no one say, hereafter, that females cannot learn, for that is an assertion without foundation. Elizabeth is living proof to the contrary and she merits the approbation and encouragement of her parents and friends.

Morristown, New Jersey (signed) P. Warden
March 8, 1826

From: "Geography a Century Ago," *The Journal of Geography*, 32 (October 1933): 298.

Elizabeth Crane's accomplishments suggest that geography in 1826 entailed the rote memorization of facts. It would be difficult to argue against that assessment! Whereas institutions of higher learning had begun to dismiss geography prior to 1820 because insufficient intellectual challenge accompanied the rote description and detail of geographic areas, the elementary schools found the subject ideally suited to the intellectual activities and abilities of children. Most certainly those activities and abilities included stand-and-recite memory exercises. Even more importantly, while the colleges and universities disparaged geography on an intellectual basis, they did place a premium upon geographic knowledge as one trait of a liberally educated person. As a result, the grammar school teachers became even more devoted to providing memorization exercises which would enable their students to successfully pass the college admissions examinations in geography (Warntz 1964).

The pressure exerted upon the elementary schools by virtue of college admissions requirements in the early 1800s resulted in increasingly greater quantities of geography being taught (Boyles 1926). After about 1830 the importance of geography was further recognized through the enactment of state laws requiring the teaching of geography in the elementary schools and, in some instances, the study of the geography of the home state (Rumble 1946).

Early geography textbooks, without question, guided school geography to focus upon the acquisition of facts. The earliest American text, *Geography Made Easy* by Jedidiah Morse (1784), was written so that almost anyone could teach geography. Pupils' progress was measured by their ability to memorize standard answers to standard sets of questions. Despite the major dependence upon facts, the early editions of the Morse "geographies" contained numerous inaccuracies, were strongly biased in favor of New England, were reflective of strong religious orthodoxy (Morse was a minister) and extremely conservative regarding morals (Warntz 1964). In essence, geography instruction was intended to improve the student's perception of the powers of the Creator. It is also interesting to note that early geography texts employed the process of beginning with the whole and reducing it to the component parts. For example, the globe and generalized view of the world were studied first, followed

in order by continents, countries, and states (Rumble 1946). This sequence is in sharp contrast to the expanding environment philosophy which has maintained a dominant position in American social studies education during the 20th century.

1.2 Dominance of Physical Geography--The Later 1800s

The period 1820 to 1870 was especially important to American geography institutions for several reasons. First, the Swiss educator, Johann Pestalozzi, was promoting the philosophy that direct observation and sense perception were essential to meaningful learning by children. Those concepts began to appear in the United States in the form of attractive and interesting books for students. Maps and line drawings became essential parts of texts and American educators proposed that map drawing, study of the home region through direct observation, and experimentation using globes were the more effective ways to teach geography (Rosen 1957). After 1860, the actual reproduction of photographs became feasible in textbook illustrations, in turn placing a greater reliance upon vicarious observation.

Second, the public secondary schools of the nation were increasingly offering four-year programs, resulting in greater amounts of geography instruction at the high school level (Stout 1921). The Springfield, Massachusetts, public high school included geography as a science offering in 1852. Physical geography was offered in Madison, Wisconsin, by 1863 and Jacksonville, Illinois, offered two geography courses by 1869. Those developments are indicative of the increasing acceptance of physical geography as a scientific study (Stowers 1962). This curricular development coincided with the appearance of the first American physical geography text in 1855 (Rumble 1946).

Third, the introduction of physical geography to the secondary curriculum also coincided with the arrival of an influential European geographer on the American scene. Arnold Guyot, a disciple of the well-known German geographer, Karl Ritter, immigrated to America from Switzerland, bringing with him the Pestalozzian method of observational geography with which he had become familiar in Prussia. Guyot postulated sound philosophic studies in secondary school geography, but his popularly

accepted textbooks contained encyclopedic listings of material, forsaking his own belief that this was not the best way to teach geography. Chiefly as a result of his influence, secondary schools continued teaching physical geography. His textbooks were rapidly adopted and physical geography acquired the source of printed content it needed in order to become widely accepted (Fairbanks 1927).

The impact of physical geography on the schools grew in magnitude. In one study of physical geography, Laura Donan wrote:

> Word has been received from all but three of the thirty-eight states in regard to the course of study prescribed by law. In thirty-two of these the three R's, spelling, geography, and grammar, are considered essential to public enlightenment... (Donan 1889, p. 513)

Later that year a survey of various secondary school curricula from all parts of the country revealed physical geography to be the common geography course. It was also determined from this study that geography was usually taught under the main heading of science, which at that time entailed a number of curricular subjects (Coy 1889).

In summarizing the first one hundred years of geography instruction in United States' schools, Stowers concludes that the discipline matured significantly in content, scope, methods, and philosophy during this time. While geography content consisted of vague descriptions of early geography in the late 1700s, by 1892 content included intricate explanations of the physical environment. Instruction had also changed from recitation of ancient and modern world geography with definite status in the curriculum to a relatively permanent plan of study as an earth science (Stowers 1962).

The year 1892 spelled change, not only for geography but for the entire secondary school curriculum, as a result of the report of the National Education Association's Committee of Ten (1894). The Committee stressed that physical geography during the early secondary years, followed by physiography, should be recognized as the most important geographical offerings in the secondary school. The majority report of this committee receives credit for the policy decision concerning geography at the secondary level, thus resulting in physical geography's universal acceptance. However, the minority report by Edwin Houston

(1893) was rather perceptive. He predicted the newly recommended physical geography and physiography courses would be insufficient and not able to meet the cultural demands of our changing society. He argued the organic as well as inorganic must be studied in terms of earth relationships, a rather unpopular theme at that time among geologists and physical geographers.

Five years later, in 1897, the Science Section of the National Education Association met to evaluate physical geography, the manner in which it was being taught, and the obvious shortcomings of the course. Stemming from the committee's review, it was concluded, "The subject should be carefully held to the leading idea of the physical environment of man." Physical geography, without human studies included, remained the foremost offering in secondary school geography (National Education Association 1898).

1.3 Trend Toward Regional Geography--The Early 1900s

In 1902 William Morris Davis, a member of the Committee of Ten and an influential physical geographer from Harvard, reported his observations regarding the status of geography in secondary education. He attributed the increasing popularity of geography to the reports and publications of various National Education Association Committees. The concern and thought-provoking discussions by teachers and supervisors were opening the school door for geography (Davis 1902). However, only six years later, in 1908, professional geographers were beginning to withdraw their support for physical geography and to favor regional geography as the important geography offering in the secondary school. At the Association of American Geographers' meeting in Baltimore, Maryland, in 1908, concerned professional geographers confronted the problem of high school geography. They concluded that geography in the secondary school should "deal largely with regions--say, the United States and Western Europe" (*Journal of Geography* 1909).

A short time afterwards the Committee of Seven of the Science Section of the National Education Association presented its report concerning geography. The Committee made specific recommendations.

1. Geography...should be, in some form, a required subject

> in all secondary schools.... 2. The subject should be pursued for not less than one year.... 3. The subject should be presented during the first year of the high-school course.... 4. There should be at least five recitation periods per week. 5. About one-fourth of the total time should be devoted to laboratory and field work.... 6. ...one-half year be devoted to the larger topics in physical geography, with the human side made more prominent than at present, and that the remainder of the year be given to a study of North America and Europe (Chamberlain 1909, pp. 826-27).

The recommendations emphasized the response of humans to landforms; the interrelationship of man and environment; geography as a liberal education offering, not just a college entrance requirement; natural resources, industry, and commerce; a closer correlation between elementary and secondary offerings; and the illucidation of regional differences.

This report was made to "the largest educational organization in the world," the N.E.A. However, curricular ears were not within hearing range, and during the next few years the secondary general science curriculum assumed the content once assigned to the physical geography course. Teachers were not well trained in physiography, which W. M. Davis had so influentially introduced into the curriculum; and the topics were often dry, uninteresting, and divorced from real life. Thus, physical geography faltered.

During the years immediately before and following World War I, regional geography was gaining a foothold in the curriculum, as were other members of the geography family. These were commercial, industrial, and economic geography (Bengston 1929). In 1934, Barnes indicated that the popular rise and then rapid decline of physical geography in the high school had permitted commercial geography to gain in prominence. Commercial geography contained summaries of the production and trade of the major commodities of the world. Factual statements and statistics regarding the location, sale, and processes affecting the production of goods made up commercial geography (Barnes 1934). A study by Symonds (1933) suggested that commercial geography was maintaining a prominent position in the curriculum. Seven percent of the 371 senior high schools which he surveyed offered one geography course, usually commercial geography. Twenty percent of the schools in the sample offered more than one

course in geography. Among those additional courses, it was apparent that regional geography was gaining momentum.

Professional geographers had denounced the strict emphasis on physical geography in 1908, recommending a regional approach. Regional geography in secondary schools had begun to increase, gaining support not only from professional geographers, but also from educators (Stowers 1962). Through the regional approach, geography had begun to show its more humanistic traits in the curriculum with a people-and-places study as distinguished from the products-and-places focus of commercial geography. Voluminous textbooks employing a regional approach also had begun to appear (Chamberlain 1909). There seems to be little doubt that regional geography prospered from involvement in World War I. A resurgence was to develop following World War II as the impact of U.S. involvement was reflected in the curriculum. Attention was directed to the characteristics of various areas of the world, usually including the products/trade emphasis of commercial geography as a somewhat less intense focus than the earlier commercial course had employed.

1.4 Geography as a Social Study--The Early and Middle 1900s

As physical geography began to disappear, the social studies began to emerge as the movement destined to have a major effect on geography's curriculum role. The National Education Association commissioned a secondary school curriculum review in 1911 which included an assessment of the significance of the social studies movement and its role in the curriculum. The social aspects of geography were included in the social studies by virtue of the NEA Committee's report and recommendations (U.S. Bureau of Education 1916). As the Committee conceived social studies, it was to represent a single field of study encompassing all the social sciences, without discipline boundaries.

The history of the social studies movement goes back to almost the end of the 19th century (James 1969). The impact of social studies on the elementary and secondary curriculum became prominent in the years following World War I when a group of social studies teachers undertook to develop course materials for the social studies. Most of the participants were historians and were ill-prepared to represent other disciplines

in the social sciences. Recognizing this deficiency, the group, led by Harold Rugg, requested assistance from subject matter specialists in the other disciplines. Help was extended by representatives of virtually all the social science disciplines, with the exception of geography (James 1969). The prominent representatives of geography responded that geography was not a social study and chose not to identify key geographic concepts and ideas of the period (Barrows 1923). That decision definitely did not uphold the position of professional geographers at the 1909 convention.

As a consequence, geographers did not gain a prominent role in the early stages of the social studies movement. In fact, quite the contrary occurred. Nongeographers accepted responsibility for the geographic stand of the social studies curriculum. Those individuals often lacked training and adequate knowledge in geography as a discipline. Elementary errors in information and map presentation were frequent. Rather than coming to the rescue of the discipline, professional geographers withdrew and became even more critical of the poor examples of geography in the social studies.

For geographers partial resolution of the subject matter disciplines-social studies dispute came in 1934. Isaiah Bowman, a distinguished professional geographer, reported on the American Historical Association's review of the social studies. Bowman (1934) submitted to the social studies and geographic professions the notion that geography was, at best, only a partially objective science since it included such variable phenomena as human societies. Preston James has appropriately summarized Bowman's message to the social studies and geography professions alike:

> Geography, he insisted, must deal with processes, not with the mapping or describing of static things alone. He emphasized the importance of recapturing the thrill of discovery, which made the study of science exciting in the first place. The young people must be led to discover facts by deduction from theory and to formulate general concepts from the observation of apparently unrelated facts. This must be a major objective of teaching, he said, quite apart from any immediate social ends that may be served (James 1969, p. 68).

1.5 World War II's Impact

Changes continued to occur in the structure of the secondary school

curriculum in the 1930s. Social studies either replaced or became a parent subject for industrial and commercial geography (Mayo 1965). With the advent of World War II, renewed impetus for the teaching of geography on a world regional basis occurred. People came to realize how ignorant they were about the outside world as American troops and war materials embarked for distant places (McCreary 1942). In response, the National Council for the Social Studies recommended that the "more mature aspects" of geography be taught at the high school level as part of the social studies. They included (1) "time, place and space relationships," especially with reference to aviation, (2) the increased use of maps and teaching of map skills, and (3) increased attention to "geographical factors and influence in economic, social, and political life in the past and present, and in planning for the future" (NCSS 1944, p.25). The inclusion of geography in the social studies curriculum continued to progress rapidly. Little was heard from special interest groups comparable to those which were concerned with geography as a separate offering in 1892 and 1908 (Hoyt 1945).

The fusion of geography with the social studies resulted in a new emphasis on man in the geography segment of the curriculum. Some educators observed that the new national interest in geography with a human point of view was like a tidal wave (Lemaire 1946). The exposure of multitudes of Americans to foreign shores was reflected as regional geography increased in popularity. The United States, as a nation, was involved in international endeavors. Vast oceans no longer permitted the nation to remain separated from the rest of the world. Geography in the modern secondary school was essential since all persons were, of necessity, students of world affairs.

1.51 Elementary Geographic Education after World War II. In the meantime, the elementary school curriculum also assumed a social studies posture. As expected, a major segment of elementary social studies was devoted to history, but geography retained considerable prominence. Agemate geography, the objective and fictionalized study of similarly aged children in other environments, replaced much of the physical, political, and place location study which had become a tradition during the days of the Morse textbooks. Along with studying the typical lives of other

children, a greater emphasis was placed upon economic and cultural factors of other societies.

A second force in elementary geography education during the post-1945 era cannot be overlooked. It was the Progressive Education Movement initiated by John Dewey in the decades prior to World War II (Butts 1953). Through the Progressive Education Movement emerged a concept of interdisciplinary social studies, incorporating history and geography, but placing more emphasis upon the other social sciences and developmental psychology. The major and probably the most durable outgrowth of the era was a social studies curriculum philosophy which combined the natural interests of the child and the ability to comprehend more abstract elements of the environment. The elements were visualized as concentric rings of spatial interaction between the child and the environment, each ring corresponding to a particular age or grade (Figure I). The innermost ring represented the child, the focus of study in Kindergarten and grade 1. As the child moved into and through the middle and upper elementary grades, the scope broadened to the neighborhood, community, state, nation, hemisphere, and world. The spatially dependent program was christened "the expanding environment" and has, at times, reflected more closely a national curriculum than any other movement in elementary social studies.

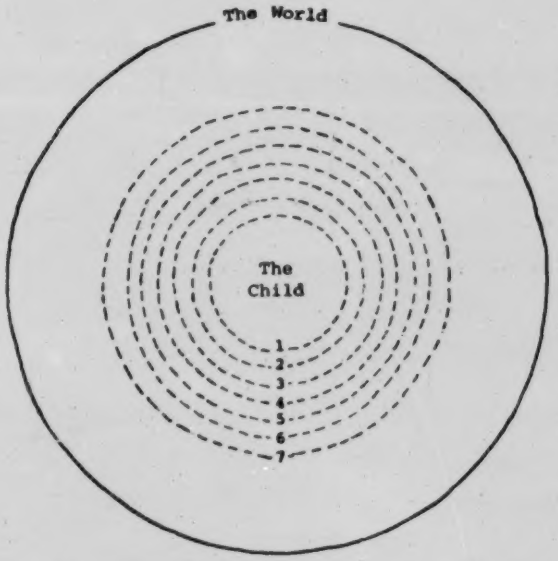

Figure I: EXPANDING COMMUNITIES OF MEN*

Emphasis No. 1--The Family Environment
Emphasis No. 2--The School Environment
Emphasis No. 3--The Neighborhood Environment
Emphasis No. 4--The Local Environments: City County, and Metropolis
Emphasis No. 5--The State Environment
Emphasis No. 6--The Region-of-States Environment
Emphasis No. 7--The United States National Environment

*Chart is modified from Hanna, Sabaroff, Davies, Farrar, *Geography in the Teaching of Social Studies Concepts and Skills*. (Boston: Houghton Mifflin, 1966), p. 79.

The reader must also be apprised that the geographic strand of elementary social studies was not entirely dependent upon the expanding environment focus. However, the social studies philosophy dictated the position geography was to occupy in elementary programs and that position was generally the expanding geographic environment. As curriculum revision continued in social studies, the inclusion of social science materials other than geography and history resulted in a search for complementary foci or close coordination between the disciplines. Geography was advantageously employed in that respect, since it permitted the inclusion of the physical maze which man calls home as well as the study of associated cultural manifestations which are related to particular geographic locations.

A final testimonial to the role of geography in contemporary elementary social studies curricula is the number of professional geographers who have authored or consulted on segments of textbook series. The list includes such well-known (in geographic circles) names as Merle Prunty, Philip Wagner, Phillip Bacon, Ronald Boyce, Homer Aschmann, Henry Warman, and Clyde Kohn. As a group, only professional social studies educators and possibly historians have played a more important role than geographers in designing commercial social studies materials for elementary-age children.

1.52 Secondary Geographic Education after World War II. Geography in the secondary curriculum did not fare as well as its elementary counterpart in the years following World War II. Although assertions of geographic illiteracy were leveled against the American public, schools did not react with universal geographic study. Perhaps geography's image as a vast array of impractical, uninteresting facts seldom related to modern living was one reason little ameliorative action was taken.

Mayo (1965) carried out a survey of literature in social studies, geography, and professional education to ascertain the status of geography in secondary education between 1944 and 1964. The object of the survey was not to defend geography as an independent secondary offering but to analyze the perceptive pulse of social scientists and geographers who were concerned about the *lack* of geography in the curriculum.

It was apparent from the literature (1) that there was (and is) a

lack of geographical content in the social studies approach; (2) that there is a need for geography in today's education; and (3) that geography should be once again an independent subject in the secondary school curriculum (Mayo 1965, pp. 96-97).

The complaints and recommendations by these writers, who were social scientists and geographers, reflected their concern over the lack of geography in the social studies curriculum. Their more specific complaints, according to Mayo, were the following:

> (1) physical geography has been neglected almost completely; (2) even in the relatively sparse offerings of human geography, factual material is left out in favor of the interest-centered appeal; (3) as a fused content subject, geography is not given equal time with history or other social sciences; (4) geography does not extend into the senior high school except rarely, and it is even left out in the junior high school to a large extent; (5) there is indifferent teaching in social studies concerning geography due to the lack of preparation of the teacher whose background is usually primarily in history courses; (6) the chronological approach inherent to history wins out over the spatial or geographical approach; (7) there is a lack of understanding on the part of school administrators and teachers as to what geography is and what it should encompass; (8) there is a lack of adequate class time in the curriculum for both history and geography on equal time levels (Mayo 1965, p. 97).

Certainly the bias of writers who were pro-geography made the points of concern somewhat stronger than social studies writers reported. Despite that bias, it was apparent to the geographic practitioners in every segment of education that secondary school geography was held in low esteem by teachers and students alike. Geography was a dismembered segment of the curriculum. Part of its traditional content was being taught as general science or earth science; another part was fused with history or the social studies curriculum. Probably the most serious indictment resulted when secondary school geography was compared to the actual scientific research and study of professional geographers. The two activities were literally worlds apart. The challenge, beginning in 1960, was to reintroduce secondary geography to a prominent role, either as a separate subject matter or as a part of the social studies, which reflected its potential as part of a liberal education and as a means for investigating cultural and natural environments.

2.0 Geography as an Opportunity

2.1 Role Clarification for Geography

Events distant from the U.S. helped to provide the stimulus necessary to meet the challenge of the sixties. The U.S. was placed in the uncomfortable position of being "second best" in the critical area of space science specifically and science generally. The Soviet Union's successful launching of Sputnik in 1957 ignited an interest in secondary school science, language, and mathematics programs which in turn affected the social sciences. Before Sputnik, the decline in the number of scientists and engineers graduating from U.S. institutions of higher learning and an aversion to the science areas among secondary students, had been of little concern to large segments of the populus.

The change was rapid. Interest in science, math, and language programs soon expanded into a broad-spectrum concern with virtually the entire secondary and elementary curriculum (Goodlad 1966). As the concern produced new and exciting classroom learning materials, it became evident that it was also necessary to update the experience levels of the teachers who were being asked to use the new materials. Thus was born the summer institute effort. In all this, scientists teamed with governmental agencies to mount perhaps the most massive assault on various educational ills this nation had ever experienced. Geography was among the disciplines to occupy a favored position.

Governmental interest in curriculum reform was early and largely operationalized through the creation of the National Science Foundation in 1950. It was initially the chief granting agency and, being science oriented, it channeled its interests and resources into the science and mathematics fields at all levels of education.

2.2 Education and Disciplines: A Challenge

Meanwhile pressure was mounting for support of the social sciences. While the U.S. Office of Education was beginning to fill the void, the National Science Foundation somewhat cautiously entered the social sciences by coming to the support of geography. NSF's reluctance to enter into educational reform within the social sciences was based on experi-

ence and expertise in the hard sciences which seemed to argue against entry into the social science domain. It was geography--the bridging discipline between the physical and social sciences--that provided the convenient entree, and the vehicle was the already functioning High School Geography Project.

The state of geography as a subject in the curricula of elementary and secondary schools in the United States at the opening of the sixties was not easy to assess. At the secondary level several types of geography under different titles were discernable in grades seven through 12. Generalizations are tenuous, but most commonly geography, when offered, was taught at either the seventh or eighth grade level as a year-long or as a semester course. These courses generally involved surveying the world, country by country. It is probably the course to which most people relate when asked to recall the geography course they took. Occasionally a world survey course might be found at grade ten, and even less often, a course titled commercial or economic geography could be found in either grade 11 or 12.

2.3 First Response: High School Geography Project (HSGP)

Perhaps the single most influential individual in the history of the High School Geography Project was Gilbert F. White. His interest in the teaching of geography and the problems facing Chicago's Board of Education brought him face to face with the dilemma which confronted geography in the mid-'50s. Aware of geography's unfavored position in secondary schools, the Chicago Board of Education, through its chairman, Sargent Shriver, counseled with White in an effort to improve the situation (Pratt 1970). Although the results were generally unsuccessful, the experience prodded White to join with Clyde Kohn, long interested in elementary and secondary school geography, to form what became known as the Joint Committee on Geographic Education. Supported by the Association of American Geographers and the National Council for Geographic Education, with seed money from the Ford Foundation, the Committee determined its broad task to be the improvement of geography in education through updated and improved classroom instructional materials. From these early efforts and monies, the High School Geography Project was

formed in the early '60s.

The curriculum reform projects of the '50s and '60s followed remarkably similar patterns. They were, of course, all attempts to improve either elementary or secondary course offerings. But more than that, they all began with the realization by professionals that (1) in part through their previous disinterest, a significant problem faced their discipline; (2) the magnitude of the problem required large-scale interest and effort on the part of a number of concerned and related parties in order to deliver a solution; (3) many professionals who previously had little interest in the teaching of geography at the elementary and secondary levels now were becoming active agents in the change effort; (4) they were faced with the critical and perplexing question of the time constraint of a one- (or at most two-) semester course into which must be put the breadth and depth of the body of knowledge contained in the discipline; and (5) the highly experimental nature of the materials demanded a program of repeated classroom trials before being published. So it was with HSGP.

2.31 Two Early Decisions: Regional vs. Topical and Physical vs. Cultural Orientation. Of the early critical decisions to be made by the HSGP Steering Committee, perhaps the most difficult revolved around the theme and approach of the materials. Were they to have a physical or cultural bias or both? Were they to have a regional orientation, a topical one, or both? The traditions of geography and rationales which supported them were raised, reviewed, and analyzed by the members of the Steering Committee (Pattison 1964). Advocates of the various approaches to geography were heard, and in the end the Steering Committee decided to attempt a compromise of the views presented. Instrumental in the decision was the introduction into the deliberations of what was to become known as the McNee Outline (McNee 1965). Focusing on a settlement theme, Robert McNee argued that with the world's population becoming increasingly urbanized and with a plethora of man's present and foreseeable problems related to that trend, it made eminently good sense to develop materials with an urban theme. Few argued to the contrary. Thus, "Geography in an Urban Age" was struck--but not before there was tacit agreement among Steering Committee members that the ideas and recommendations from other

geographers ought to be recognized and recorded. There was even hope that once the Settlement Theme course was developed, other courses would follow. However, the magnitude of the Settlement Theme course became so great that additional courses never materialized beyond basic outlines of ideas.

More thorny than the theme of the course was the question of its organization. The age-old arguments supporting a regional and those supporting a topical approach were dredged, aired, and screened. Advocates of the regional approach were well represented on the Project's Steering Committee by Preston E. James, the dean of American Regional Geographers. Proponents of this approach argued that geography had a long history of regional orientation and an equally well established rationale to support it. It was further argued that most of the existing text material as well as the training of many elementary and secondary teachers was in regional geography. To organize a new course along different lines would be to introduce further confusion into an already muddled situation. Teachers would need re-educating, as would textbook salesmen and social studies coordinators.

Again, the decision reached by the Steering Committee represented a compromise solution. The materials, developed in unit packages, reflected the thinking and works of cultural and physical geographers who had backgrounds in either topical or regional geography. Thus Units I through V are topically oriented, while Unit VI concludes the course with a regional focus on Japan.

Although not reflecting a balance between the two approaches, this arrangement of materials was thought to be sound. In fact, it represented the thinking of a new breed of geographers who had backgrounds in applied mathematics (statistics) as well as philosophy and logic. Research undertaken in several leading geography departments, which were also among the leading institutions granting Ph.D. degrees in geography, relied heavily on statistical techniques and formalistic thinking approaches. For example, efforts begun in the early 1950s by H.H. McCarty and later extended by other quantitative geographers, resulted in data used to support a system of thought which began with geography's roots, place or location, and extended from the descriptively singular

case into the plural and analytic case (McCarty 1956). Their research and writings were to provide the data and rationale for a more rigorous method of regionalization (Thomas 1960), as well as a method whereby a region might be analyzed.

Frequently, before this time, the manner in which the content of any particular region was covered reflected the interests and whims of the author. At times this meant an exhaustive cataloguing of facts as they related to a particular region. Because these facts existed within the confines of the region was reason enough for their being noted. Consequently, little or no effort was made to develop a model for systematically analyzing and comparing several regions.

In the compromise which was effected and applied to the Settlement Theme of HSGP, early plans called for eleven units.

Unit I	Introduction
Unit II	The Structure of Cities
Unit III	Networks of Cities
Unit IV	Manufacturing and Mining
Unit V	Agriculture
Unit VI	Culture as a Factor in Settlement
Unit VII	Man and His Natural Environment
Unit VIII	Water Resource
Unit IX	Political Units and Processes
Unit X	Japan
Unit XI	Summary: The Big Ideas of Geography

As the unit materials evolved and were tested in classrooms around the country, it became evident that far more than one academic year's material was being developed. Thus, deletions and combinations were produced to form the existing six units of materials under the heading *Geography in an Urban Age*.

Unit I	*Geography of Cities*
Unit II	*Manufacturing and Agriculture*
Unit III	*Cultural Geography*
Unit IV	*Political Geography*
Unit V	*Habitat and Resources*

Unit VI *Japan*

2.32 Departures from Traditional Geography Courses. The materials in this format represented a break from traditional textbook geography in a number of ways. Most general introductory geography texts began with a review of earth-sun relations and map study. If the course was physically oriented, a summary of climate and weather was introduced next, followed by a study of major landforms. If the course was culturally oriented, the study of maps and earth-sun relationships was followed by a country-by-country survey of the world. The organization of HSGP materials completely subverted this approach. Interestingly, many geographers were at first reluctant to accept the argument that it made just as much sense to begin a world geography study with a significant cultural phenomenon as it did to begin with the physical geography of the world.

In the traditional single-textbook approach, the student's role in the learning process was primarily confined to answering questions at the close of each chapter and at times coloring maps and/or completing workbooks which accompanied the texts. The principal focus of these activities was to expose students to a vast amount of factual information, most of which was to be memorized. Thus a second and perhaps more significant feature of HSGP's materials was the heavy reliance upon direct and active involvement of the student in the learning process. Although not the first curriculum project to utilize a wide variety of teaching/learning strategies, it was one of the first social science projects of its magnitude to do so.

In many HSGP activities, students are presented with real and meaningful problems together with the data and means to pose solutions to those problems. In the decision-making process leading to a solution of a particular problem, relevant data have to be separated from irrelevant data, tentative solutions have to be formulated and tested, and choices have to be made. Within this mode, the strategies employed in a number of the activities incorporate the use of dissonance, model building, and simulation/gaming. Examples of these strategies are worthy of closer examination.

* * * * * * * * * * * * * *

Dissonance is a negative drive condition which results when an individual simultaneously holds two ideas, beliefs, or opinions which are psychologically inconsistent (Festinger 1957). Festinger's classic example of dissonance involves the person who believes that cigarette smoking causes cancer and at the same time realizes that smoking is a personal habit. This condition can be utilized as a powerful learning tool. The learner is often highly motivated into inquiry which, hopefully for the learner, will result in a diminution of the dissonance (Suchman 1965).

The "Three Neighborhoods in New Orleans" activity in Unit I utilizes this learning model. Using maps and aerial photos, students are asked first to describe three adjacent residential neighborhoods in suburban New Orleans in terms of evident house sizes, shapes, and densities; existence or lack of vegetation, curbing, and sidewalks; street patterns; and condition of housing. On the basis of the visible evidence, students realize there are marked differences from one neighborhood to the next. Given this variability and the data which support it, students are then asked to speculate about the social and economic conditions they would expect to find in each neighborhood. Slides depicting various portions of each neighborhood are shown at the time in order to help students make the inferences.

Following the period of speculation, census data are provided for several characteristics (e.g., median family income, value of housing, and percent of neighborhood population which is Black) so that students may "check out" their hunches. Invariably a large degree of error enters into at least one of the hunches, much to the surprise and, often, distress of students. The dissonance created is a basis for an inquiry into reasons for the discrepancy between the hypothesized outcome and the actual.

In an effort to determine "what went wrong," students quickly call for a re-examination of the data. Closer scrutiny of the data provides some clues into the sources of error. Somewhat reluctantly, however, there is the realization that a willingness to accept stereotypic thinking without question is an operating factor. The dangers of hypothesizing on the basis of limited information, the inherent power in

the scientific method, and subtle influence of stereotyping on apparent rational and objective thinking are a few of the lessons learned from the activity.

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One of the best known and most popular activities among students is "Portsville," a simulation activity in Unit I in which the major task requires students to build a city. Unknown to students, the data which are used come from documented accounts of the historical development of Seattle, Washington. The material by which the model of the city is constructed consists of color-coded Modulex blocks (which are a miniaturization of the Lego building blocks available in most toy stores) and a 3' x 3' board which includes a pictogram of the landscape in the Seattle vicinity. Having dealt with site selection, city structure, and city growth earlier in Unit I and using information reflecting the historical growth of Seattle, students in groups of five to seven proceed to build their city. Building proceeds in three periods: 1850-1880, 1880-1890, and 1890-1900. For each period students have only a specified number of Modulex blocks representing categories of land use (e.g., industrial, commercial, residential, public). Within these broad parameters, each group is faced with a number of decisions related to the locations of specific land users as well as the pattern and direction of growth their city takes. The charge given each group is to defend the city they have developed to their classmates.

If objectives are successfully accomplished, at the conclusion of the activity each student should be able to:

(1) predict where different kinds of urban land use are likely to be located;

(2) explain why different kinds of urban land use may be located where they are;

(3) explain why a city grows or declines;

(4) cite examples of how such factors as human enterprise and good fortune influence urban growth; and

(5) cite examples showing how people have modified their physical environment and adapted to it. (HSGP Unit I 1969)

The activity also provides students with much practice in making

and defending decisions, as well as in the intellectual skills of applying, synthesizing, and evaluating information. In a very real sense students are social planners in a position to inquire into the consequences of decisions made from different sets of economic data and social values.

* * * * * * * * * * * * * *

> *Political conditions have forced you to leave your farm in the northern part of Germany. As a young man you were faced with induction into the Imperial Army. Since you considered yourself a farmer rather than a soldier, you decided to emigrate to the United States to obtain a farm of your own. You have been working in St. Louis, Missouri for the past five years where you have saved your money and have become a naturalized citizen. You have now obtained a homestead in Settler County, Kansas. You have built a house, accumulated the necessary machinery and have $1,500 to begin farming.*
>
> *Your past farming experience has been with raising small grains (wheat, barley and rye) and hogs. You have also read the railroad brochures describing the area of Settler County and you are now ready to begin farming in your new home. (HSGP Unit II 1969, 1880 role card)*

So begins "The Game of Farming," an agricultural investment activity from Unit II. Working in pairs, students assume the role of Kansas farmers during the periods 1880-82, 1919-21, and 1933-35. Provided with land, equipment, a modest sum of money, and data describing the climate, weather, soils, and market conditions, students attempt to maximize their investments. Generally the workings of nature and the economy combine favorably to produce profitable results during the first period (1880-82). As a transition is made to Period II, information sources review the inventions, discoveries, historic events, and economic conditions which underpin the year 1919-1921. Armed with accurate information and buoyed by success in Period I, students enter 1919 highly optimistic.

Crop and livestock investments are made following careful study of rainfall patterns and market trends as well as the introduction of hybrid seeds. Gradually, as each year fades, the frustration of failure builds. Increased application of know-how, technology, and specialization all fail to alter the portending 1930s. Drought, dust, and depression descend. Wiped out and faced with bankruptcy, students become

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angered, frustrated, and stunned. Frequently becoming immersed in their role, students are heard to say, "I've been working this land for most of my life--all I have is here--I won't leave!" and "Why can't we join up and farm together?" and "I guess we'll have to move to the city." In dramatic fashion, students cognitively and affectively experienced the plight of Kansas farmers during critical years in our history.

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Certainly another break from tradition demonstrated by the HSGP materials is the variety of social studies courses in which many of the activities may be applied. It is too early to determine whether this feature will dissipate geography into the social studies to the extent that it becomes unrecognizable as a distinct discipline. Certainly the likelihood is there. Future research should shed some light on this important question.

Viewed from an administrator's or classroom teacher's perspective the pay-offs from the materials' applicability are several. The following table clearly demonstrates the point. (HSGP Newsletter 1970)

MULTIPLE USES OF HSGP MATERIALS

	Unit Activities By Number*					
Social Studies	1 Geography of Cities	2 Manufacturing & Agriculture	3 Cultural Geography	4 Political Geography	5 Habitat & Resources	6 Japan
World Problems or Current Events	2, 5	5, 6, 7, 9	1, 4, 5	All	2, 4, 5, 6, 7	1, 3, 4
Earth Science	1, 6	1, 5, 6, 8			All	
Economics	All	All	1	1, 3	All	All
Political Science, Civics or Government	1, 3	7	3, 4	All	4, 7	
United States History	1, 3, 4	8	2, 5	1, 2, 3, 5	5, 6, 7	
World History	1, 6	5	2, 3, 4, 5	4, 5	1, 2, 4, 7	All
Environmental Studies Program	4	2, 3, 5, 6, 9		1	All	4
Regional Geography						
North America	All	All	1, 2, 4, 5	1, 2, 3, 5	1, 2, 3, 5, 6, 7	1
South America		5, 6, 7, 9				
Europe		5, 6, 7, 9	1, 2, 5	4		
Africa		5, 6, 9	1, 2, 3, 5		2	
Asia		5, 6, 9	1, 2, 3, 5			All
Australia					4	

Prepared by Robert M. Cason and Ronald J. B. Carswell, HSGP staff.

Still another break from tradition is the manner in which HSGP unit materials evolved. Each unit's materials were developed by a professional geographer who was often aided by a classroom teacher, educational psychologist, and university educator. During and immediately following the unit's development, all parts of the material were tested in the classroom. Feedback from both the students and teachers were applied,

when necessary, to revision of the materials. This procedure--development, testing, revision--was repeated a number of times before the materials were submitted to final editing.

Near the conclusion of the revision phase, the materials were often reviewed by professional geographers and social science teacher educators. The materials were usually well received by the educators, but generally less well received by the geographers.

The criticisms usually leveled by the geographers revolved around aspects of the materials that the educators favored. Two criticisms predominated: the "gaminess" of the materials and the heavy emphasis on "social studies." It took repeated exposures to the activities before strong "mind sets" were changed. Fortunately, these exposures involved the individuals in actual participation in the activities. Often the activity was taught be either an experienced classroom teacher or professional geographer. Gradually most members of the geographic community came to accept the favorable comments being made by teachers and educators. Today these same characteristics are probably the strongest features of the materials. Students and teachers generally comment favorably on the refreshing change the learning strategies bring about. In a like vein, teachers and administrators are often favorably impressed with the breadth of cognitive material.

During the developmental stages of HSGP, concern was often voiced over the long-range (ten years) impact of the materials on the teaching of geography at the elementary and college as well as the secondary levels. Although it is still too early to draw any but tentative conclusions, it probably can be said that results thus far look favorable. Changes modeled after HSGP materials seem to be taking place at both the secondary and college levels. Evidence points to higher HSGP sales than expected (Macmillan Sales Manager, telephone conversation 1973). Other evidence suggests a change in the classroom teaching style of college geographers from one relying almost completely on lecture to one which includes "scenarios," role-play activities, simulation games, and the like. While it is not possible to attribute all such changes to HSGP, there is some loud and clear evidence demonstrating its influence (Hill 1970).

Perhaps most important and most elusive to document is the influence

of HSGP materials on social studies classroom teaching. How many teachers have bootlegged activities into classrooms? How many teachers have developed modifications of existing HSGP activities to suit their specific needs? How many teachers of U.S. government courses use or have adapted "Section," "One Man One Vote," or "School Districts for Millersburg?" How many U.S. history teachers use or have modified "City Location and Growth," "Portsville," or "The Game of Farming?" It is quite likely that we will never know the full magnitude of that type of influence.

2.4 Second Response: Geography in the Elementary Curriculum

Geography in the elementary school is, in reality, only one segment of the larger social studies curriculum. An argument for geography as the only subject in the elementary social studies curriculum would be foolish, if not impossible. However, geography's critical role in social studies has been recognized by the National Council for the Social Studies (NCSS) and demonstrated in three NCSS-sponsored yearbooks: *Geographic Approaches to Social Education* (Kohn 1948); *New Viewpoints in Geography* (James 1959); and *Focus on Geography* (Bacon 1970). Participation by geographers in other NCSS yearbooks and publications also attests to geography's role in the social studies.

In the mid-1950s there was a good deal of concern about the crowded school curriculum in general. At that time, pressure was building to include social science parent disciplines other than history and geography in the social studies. Although the major emphasis for such a move would not occur until the mid-1960s, some educators were making futuristic recommendations for elementary school geography. One set of suggestions offered three points which were surprisingly predictive of the elementary social studies projects initiated in the '60s (Wilson 1957).

The first recommendation was that elementary geography be designed as an introduction to geography and include the basic foundations of the field. Such a recommendation was, at that time, in sharp contrast to the notion of world coverage. The second recommendation was that the accumulation of facts about every part of the world be reduced in importance. The application of factual data in the development of geographic

generalizations and principles was viewed as more important than the rote memorization of facts. The third recommendation, and perhaps the one which proved most significant, urged that curriculum designers and teachers solicit the support of specialists in formulating new curricula. Two tasks which specialists could perform were (1) the identification of specific concepts and skills reflective of the discipline, and (2) the sequence of learning experiences required by the student to attain educational objectives. It was the third recommendation which introduced learning theorists, educational psychologists, and content specialists to the curriculum setting.

The major thrust in the elementary curriculum movement occurred about mid-1960. Considerable support from the federal government was responsible for many curriculum research and development programs. By no means, however, did the federal government have a monopoly in program development. Some groups of curriculum developers organized in response to the expressed needs and objectives of the federal programs; others were aligned with state-wide social studies curriculum revision/design projects; still others were underwritten and supported by independent school systems. The one feature which characterized virtually all groups was the commitment to a multidisciplinary social studies curriculum. That emphasis was evident in the array of social scientists representing specific disciplines and overseeing their application in the elementary curriculum.

Regardless of the sponsorship, the developmental programs shared several common objectives. First, there was a need to reappraise the significance of scope and sequence and educational goals in the curriculum and recommend necessary adjustments in light of new findings. Second, there was a need to develop teaching methods, strategies, and techniques which insured the attainment of specific educational objectives in social studies. Third, the creation of new materials--accompanied by programs of experimentation including classroom application, evaluation of effects on children, and revision and redesign--was judged an essential component. Finally, all programs recognized the need for the dissemination of information about newly-developed and evaluated materials.

The curriculum revision task was perhaps more difficult for the par-

ticipating geographers than for those social scientists representing disciplines being introduced in the curriculum for the first time. For one thing, geographers had a tradition of being in and out of curriculum revision processes over a long period of time. At times they were included as earth scientists and/or physical geographers. At other times they were included as cultural and/or regional specialists. And equally significant, geography now had to seriously compete with the other social sciences for space in the elementary social studies curriculum.

Most social studies projects were in search of multidisciplinary approaches for elementary children which realistically portrayed the complementary nature of the social science disciplines. The geographer found it necessary to accomplish the latter while continuing to be the principal contributor of information and ideas regarding man's physical environment. Geographers were also given the task of providing traditional physical as well as innovative social science geography in conjunction with the other disciplines--a task not requested of representatives from other social science disciplines.

The response of geography is implicit in the curriculum materials developed. The geographic strand is apparent throughout many of the curriculum designs. In some cases it is dominant, comprising the larger portion of study; in other cases the geographic strand is practically restricted to map and globe skills.

A cursory inspection of three elementary curriculum projects demonstrates the role which geography assumed in general. The authors have included the three not to delimit or suggest an exhaustive search of available materials, but rather to demonstrate various roles assigned to geography as a discipline. Considerably more information on this topic is available from the Social Science Education Consortium, the ERIC Clearinghouse in Social Science/Social Studies Education (both in Boulder, Colorado), and the literature of social studies (see bibliography).

The University of Minnesota Elementary Social Studies Program incorporated a multidisciplinary approach. Geography is identified as a major content focus at kindergarten, fourth, and fifth levels. Kindergarten units include (1) "Earth as the Home of Man" (Overview); (2) "Our Global Earth"; (3) "A Home of Varied Resources"; (4) "A World of Many Peoples"; and (5) "Man Changes the Earth" (Kennamer 1970). The content

is obviously geography from the unit titles. However, careful inspection reveals that considerable anthropology as well as additional support materials from several other social science disciplines are contained in the materials.

Similarly, at level one it would be premature to assume that little or no geography is taught. For example, when the curriculum is used at level one an important social science concept is site, and site is closely related to the physical environment while also reflecting the cultural preferences of the local inhabitants (Mitsakos n.d.). The examples of geography in a multidisciplinary setting are evident in similar ways throughout the curriculum.

A second curriculum project which uses geography as the integrating discipline was designed by the Providence Social Studies Curriculum Project (Sanders 1970). This project adhered closely to the expanding environment format, beginning with the family and extending to a comparison study of two culture regions (Africa and Latin America) by level six. The geographic strand is dominant and includes components of physical, regional, and systematic geography. At level four, for example, the student studies three types of regions: (1) physical, (2) cultural-metropolitan, and (3) extractive. Within each of those contexts, the social science disciplines other than geography appear in a variable threadlike fashion while geography assumes its more traditional curriculum role as integrator of various phenomena associated with regions.

The third project addresses geography more directly than the others. It is the Elementary Geography Curriculum Project of the University of Georgia. This project produced supplementary units in geography rather than a year-long curriculum. The materials are conceptually based and present, for the most part, concepts which reflect the discipline of geography as a contemporary, systematic study. The materials have been prepared by specialists in geography education and frequently incorporate supportive concepts and content from the other social science disciplines. A unit designed for the upper elementary grades incorporates social, political, economic, and historical data in the comparative study of two regional units, the United States and Mexico (Dale 1972).

As well as incorporating varying degrees of geographic focus, the

aforementioned materials employ differing methods of presentation and instructional strategies. That diversity is testimony against the notion that geography is a rather methodical, rote memorization exercise. Quite the contrary, geography in more recent social studies is a vibrant, exciting topic. Despite the less than dominant position of the geographic strand, the concepts which have been identified reflect the current academic development of geography.

2.5 Geography in the Social Studies: Post Project Effects

The 1960s may unquestionably be considered the decade of educational curriculum projects. The science emphasis spurred by Sputnik came to include the social sciences as the fabric of the nation strained under serious social, economic, and political problems. During this period a number of social studies/social science curriculum projects gained fruition. The greatest impact of the projects was, the authors believe, upon the larger body of commercial social studies materials which began appearing in the early 1970s.

In general, post-project geography appears in curricula as an adaptable, interdisciplinary subject. At the secondary level, HSGP is the best example of geography's interdisciplinary applications. Units as well as individual activities from HSGP can be applied to virtually all other social science/social studies foci. As stated earlier, the HSGP materials exhibit considerable versatility in an interdisciplinary program.

A second measure of the success of an endeavor is its adoption by others in the commercial educational materials preparation field. The learning processes promoted by HSGP in the use of maps, data, aerial photos, and modulex-type simulation boards have permeated the materials' design of commercial publishers. A perusal of supply catalogs for social studies materials reveals a range of materials available from several distributors, all bearing a striking resemblance to the manipulatory props of HSGP. Thus, the success of HSGP in stimulating materials' development and redesign may be intuitively measured.

Thirdly, it may also be argued that the current emphasis on urban studies is in part a response to projects which focused on urbanization. Whether the recent urban studies' emphasis can be ascribed to HSGP is a

difficult question since there have been general trends toward urbanization. However, HSGP demonstrated for the nation's curriculum designers a means to introduce students to the problems faced by an urban industrial society and to extend to those problems plausible solutions based on documents and data from the social and physical sciences.

A final indication of the direction of contemporary social studies is the frequency with which materials such as HSGP are used in nongeography classes. Data from the publisher and the Association of American Geographers suggest numerous instances in which Manufacturing and Agriculture (Unit 2) is used in economics classes, Political Geography (Unit 4) in political science classes, and Japan (Unit 6) in Asian studies classes. Although the units are taken out of the context of the total project, their inclusion in other disciplines reaffirms the vitality of geography and the role it can play in the social studies curriculum (see Table 1 for a detailed listing of HSGP's relation to other disciplines in the curriculum). Perhaps geography in future curricula will dwell on the geographic literacy of students who learn the geographer's way of inquiry by using materials similar to HSGP and apply those methods to social science disciplines other than geography.

The elementary level geography strand of the social studies curriculum appears to have undergone some noticeable changes when compared to the majority of 1950 vintage materials. Whereas the earlier materials were heavily laden with descriptive information and often focused on unique aspects of the world's people and places, post-project geography tends to be conceptually oriented. The application of learning theory permeates much of the material, as exemplified by those materials developed under the direction of Hilda Taba. In such materials the sequencing of concepts and the development of generalizations are carefully engineered to coincide with what is known about human development. Not all materials measured up to the mark and some, despite honorable intentions, fell far short of the mark. However, it may be concluded that one impact of the projects was a conscientious effort by publishers of social studies materials to design educationally sound (sometimes even field-tested) social studies sequences.

A second influence of elementary social studies projects, greater

attention to affective learning, has proven more difficult to relate to geography. Geography's tradition has not facilitated the inclusion of affective considerations in the curriculum; the increased attention to affective topics in other social studies materials has not often been transferred to the content of geography to a significant degree. Ways in which affective approaches to values, decision making, and conflict can be accommodated in the geographic strand of social studies is the focus of the final section of this paper.

The influence and demands of social studies on geography is evident in the preceding comments. The influence of geography on the social studies is yet another consideration. Several examples have illustrated how HSGP has, or is, influencing general social studies instruction. Beyond those aspects, the influence of geography and geographers in the post-project social studies movement has been minimal.

The social studies area where geography has had a momentous impact is skills development. Most classroom teachers include map, globe, and chart reading under the instructional category of geography. Often the only experiences closely related to geography are in the realm of map drawing and completion exercises. Additional emphasis is also being placed on the collection and interpretation of data. Students are provided data in chart or graph form from which they can draw conclusions or test hypotheses. The application of data in geography teaching has a long history, with rote memorization being the first use. More recently data are used for higher levels of cognition and analytical skills development.

The final influence of geography is in local observation and field study. The traditional walls of the classroom are opening and students at all levels are being permitted to gain learning experiences from a wider cross section of the environment. Field activities which were once a strong component of geography instruction are now reappearing in the social studies. However, several generations of social studies/geography teachers have had little or no experience in field observation and study. The reintroduction of field observation and data collection for subsequent classroom interpretation is one area in which geography's past may provide a direct link with its future.

3.0 The Future of Geography

3.1 Future Directions of Geography

As the final quarter of the 20th century begins, mankind is increasingly focusing on the future. The negative effects of decades of human efforts are becoming more visible as they directly affect the daily lives of everyone. In dealing with these conditions, there is need to address those problems of greatest immediacy as well as to search for means to minimize future negative effects. Given this, what is the role of geography?

There seems little doubt that geographers will continue their traditional focus on the element of location. Geography instruction will start with the locational question, Where is it?, and require students at all grade levels to learn where phenomena are located on the earth's surface. It will also require geography teachers to continue addressing themselves to other questions such as What are the patterns evident in the location of the phenomenon? Why is that particular phenomenon or class of phenomena located where it is?

Locational questions, while important, are just a beginning in geography. From locational questions emerge other types of issues: What are the consequences of that location? What are the interrelationships between or among the phenomena? What will happen if (or as) we alter the relationships? What change should be introduced? Where would that phenomenon be better located? From these generalized questions it is relatively simple to become specific: What will happen to the physical environment if or when we place the pipeline along this route? How will the interstate highway bypass influence the growth of City A? Should we prohibit industry from using that parcel of land? If we allow that nuclear plant to locate there, what will be the effect upon the life forms in the area? The list of questions can be expanded infinitely with the subject or object in question reflecting issues of the times.

The capacity of locational analysis to incorporate current issues and questions lends a timeless quality to geography. The significance of the locational dimension is further enhanced by its applicability to a variety of levels--simple to complex, local to international.

To this point in our writing, the future of geography looks much like the geography of today. From here on, however, some readers may well find themselves asking, Is this geography? Our response would be, of course, that it is--with a different slant, but geography, no doubt. The more important question might well be, Why the different focus? Why not continue geography's earlier traditions?

There appear to be two overriding reasons for refocusing. First, for geography to survive in the social studies curriculum, it must present a stronger *raison d'etre*. Secondly, geography's reason for existence must in part be based on its significance and relevance to students and society. We argue that with the modest modifications to the traditions of geography we will recommend, the discipline could have a functional and viable future in elementary and secondary education.

For future geographic education, the authors recommend that geography educators introduce three topics to their curriculum and relate these topics to the traditional locational questions of geography. The three topics are decision making, values education, and conflict resolution. They are all currently significant topics in social studies/social science education, and there is reason to believe that they will continue to be central concerns in the field for some time to come. We believe the future of geography as a social study is closely related to the way in which it deals--or fails to deal--with these issues. A perusal of current literature reveals that little attention has been devoted to the three topics by geographic educators.

In the pages that follow, we will describe the processes related to decision making, values education, and conflict resolution; suggest how geographic studies can be related to each topic, and describe specific learning activities that integrate locational questions with the topics.

3.2 Decision Making in Geography

3.21 Decision Making: A Model. Recently the number of items in professional journals, social studies methods books, and social studies texts addressing decision making in geography has, in the authors' opinions, been pitifully small. In fact, it is possible to find quite

recent social studies methods texts which devote no space to the subject. Despite an increasing body of literature on decision making in social studies, few research findings have been introduced into geography curriculum.

This apparent discrepancy is due in part to the assumption that decision making is such a frequent process it occurs with little or no conscious effort. Some decision making, such as deciding not to touch a heated stove, does primarily involve a stimulus-response sensorimotor reaction. However, much decision making, such as deciding to expend greater personal resources to live in the suburbs, involves complex thought processes.

An individual decision-making paradigm employed by the authors for instructional purposes in social studies education appears schematically as a series of steps, each representing specific processes.

Decision Making Model

Problem, issue, or situation
requiring a decision is identified.
↓
Data regarding the problem or situation
are collected or generated and verified.
↓
Inferential probability is applied
to data for establishing a decision matrix.
This may be viewed as a rank order
of preferences in which alternative
decisions are formulated and organized.
↓
"If-then" model is applied to test consequences
of various decision alternatives.
↓
Tentative decision is reached. A final analysis
of known or imagined consequences occurs.
Decision maker may return to
data collection at this point.
↓
Decision is subsumed as a component of
the individual's belief system unless contrary
evidence results in a reanalysis of the decision.
↓
Decision is manifest as an operational
component of the individual's behavior,
unless its personal nature
prohibits interpersonal manifestation.

The steps in the decision-making process occur with varying frequency, and the amount of time required to manifest the decision, or reach the final step, is highly variable. For example, when one is driving an automobile and must make a critical decision, the amount of time for the process may be a split second. In those instances numerous intrastep aspects of the process are not taken into conscious consideration. After such an act an individual frequently expresses the reflective judgment "if I would have had time to think of that, I would have made a different choice."

In the classroom many individual decision-making experiences take place. The time element, however, is often not as critical as in the automobile case cited above and both teacher and student can take time to consider the processes outlined in the decision-making model. Through such experience, the student is able to analyze a process applicable to numerous life situations.

To apply the decision-making model, first a problem issue or situation requiring a decision must arise. It is essential the decision maker perceive the necessity of a decision. The example we will use to illustrate the model's processes is the issue of whether to build an oil pipeline through Alaska. Some people feel a pipeline is necessary to meet the country's fuel needs; others feel the pipeline would cause serious ecological damage.

The second step involves collecting data which pertain to, or may influence, an eventual decision. Depending on the issue, data may be extracted from literature and media or it may have to be generated by synthesizing data to produce new evidence. The data must also be verified and biased data identified. In the case of the pipeline issue, information could be gathered from government reports, media coverage, special studies, and interviews with persons involved in the issues.

The third step in the decision-making process is to develop a matrix to function as a data storage and retrieval chart. A matrix permits the decision maker to formulate alternative decisions and identify factual inadequacies which may affect a final decision. Each piece of datum is viewed in terms of, This being the case, how will the data affect a final decision? The following matrix illustrates how

various data fit various alternatives in the pipeline decision.

Decision Issue: The Alaska Oil Pipeline

Position:	To Build		Not to Build	Environmental Effects
	Alaskan Route	Canadian Route	Tanker	
Facts suggest the effect will be in these terms				
Economics:				
Petroleum Supply	+	+	+	- or 0
Petroleum Costs				
Alaskan Employment				
International Relations				
Balance of Payments				
Ecology:				
Floral Quality				
Fauna Quality				
Accessibility damage to areas along the pipeline				
Politics:				
Canadian-U.S. credibility				
Crude Oil arriving at midwest refineries				

\+ = positive effect

\- = negative effect

0 = unknown or undetermined

The chart indicates the probable effects of several aspects of the Alaskan pipeline on the positions "to build" or "not to build." Within each position are alternatives which reflect an Alaskan, Canadian, or supertanker route and the environmental effects of each. Factual data are categorized under economics, ecology, and politics. (These are certainly not exhaustive.) A positive (+) sign indicates that the row

category is positively influenced by the column category. Thus, an Alaskan route would increase petroleum supplies, as would Canadian and tanker routes. The increased supply would probably have a negative (-) effect on the overall environment by increasing hydrocarbons in the atmosphere. However, technology might significantly reduce emissions from internal combustion engines and make this position invalid. Supply might have a neutral effect on the quality of the environment if emission reduction became a reality. If the increased petroleum supply permitted a conversion from coal to oil-fired electric generating plants (a more efficient and clean operation) the ultimate effect on the environment could be positive, especially if accompanied by reduced strip mining. Therefore, knowing certain facts allows the decision maker to make inferences about probable effects.

Decision alternatives can be formulated upon completing the matrix. It may become apparent at this point that some initial alternatives are viable while others have rather well-defined shortcomings. The decision maker must then rank high priority and low priority alternatives, such as the Canadian route or the tanker alternative. In cases where there may be only two choices, care must be taken to consider both as possible final decisions.

The mental testing of decision alternatives is the fifth step in the sequence. At this point the decision maker establishes an "if-then" procedure. In essence the procedure leads the decision maker to say, "If I select X alternative, then it appears that Y is going to happen." The "if-then" test places the decision maker in the position of predicting the consequences of a particular decision. If the pipeline goes through, then fuel supplies are increased, but if the pipeline goes through, then negative environmental consequences result. Although the possibility of not making a decision has not come up prior to this step, it does represent an alternative and its effects must also be considered.

The decision maker is now ready to make a tentative decision. A final analysis of the effects of several choices results in the selection of one. If a tentative decision cannot be reached, the decision maker may return to the data collection and verification step. In the pipeline case, the two most viable decisions may be simply: to build the

pipeline or not to build it.

The next step projects the final decision as the alternative with the most desirable consequences. The decision is subsumed within the individual's cognitive and values structure and becomes a part of the belief system of the decision maker. Based on available facts, the decision maker is able to assign the decision and its consequences to an individual belief system. The person who decides in favor of building the pipeline believes increased fuel supplies are critical; the person who decides against the pipeline believes environmental concerns are critical.

The decision to accept or reject the decision as part of the belief system is frequently where decision making ends in the classroom. Decisions are often projected in role-playing activities, but the students are merely social actors. This is not to suggest that role playing is a futile exercise. The authors do caution that role playing, like any educational activity, should be viewed as a means to attaining an end, not the end itself.

The final step in the process brings the decision maker to the ultimate position in the decision-making process--manifesting the decision as an operational norm in one's personal life. Thus, ideally a person who decides in favor of the Alaska pipeline will actively support any legislation or groups promoting the pipeline. An individual making a decision unfavorable to an oil pipeline will actively support the environmentalist point of view and work toward protecting the environment. In this final stage the decision maker moves from social actor to social participant.

Social Actor		Social Participant
	Decision Making	
(Role Playing) Students in School		(Activist) Students Outside School

3.22 Individual Decision Making: An Example. The decision to change residences is one which numerous families and individuals face at some time. The variables which the potential mover must consider in making the decision are many. To demonstrate a short decision-making episode, several variables have been identified: residential investment, costs of moving, distance to work, taxes, services, and social ties with

friends.

The educational objectives for this decision-making episode call for students to be able to:

(1) identify the steps in the decision-making model,

(2) apply the steps in the decision-making model to the role-playing episode,

(3) describe the application of steps in the decision-making model to personal decisions.

Episode A

Gladys Brown is 31 years old and has worked for Computer Services, Inc. as an electronic technician for nine years. The job is very secure and pays reasonably well. Ms. Brown is considering changing residences and has located a suburban apartment complex having several units comparable to her present apartment. Using the following data, help Ms. Brown make a decision about moving.

Data Matrix: Gladys Brown

Variable	Present Residence	New Residence
1. Residential Investment		
a) Rent	$195/month	$228/month
b) Furniture	Furnished	Unfurnished
2. Moving costs	None	$275
3. Journey to work		
a) Miles to travel	3 miles	18 miles
b) Travel time	20 minutes	40 minutes
c) Means of travel	Bus	Car
d) Travel costs	45¢	15¢/mile
e) Parking costs	None	$1.60/day
4. Taxes	In rent	In rent
5. Services		
a) Distance to hospital and medical center	1/2 mile	8 miles
b) Telephone	$6.50/month	$7.00/month

c) Television	Free	Free
d) Water, electric, sewage	$3.75/month	$5.75/month
e) Distance to shopping center	3 blocks	6 miles
6. Social ties		
a) Average age of residents in apartment complex	33 years	29 years
b) Average distance to visit friends	3 miles	14 miles

Instructions to students:

You are to play the role of Gladys Brown and decide whether to change residences. Use the information in the data matrix and the description of Ms. Brown in arriving at a decision. Try to consciously move through the decision-making steps and consider each carefully. Be certain to record other considerations you wish to make that are not included in the data matrix. Attempt to make inferences or educated guesses about data from the information you are provided.

Suggestions to the teacher:

Additional information may be requested by the students. For example, they may want to know Ms. Brown's annual salary. It is $12,000. She is a career person and has no immediate plans for marriage or a family. Suggest to students that they may want to make inferences about Ms. Brown's behavior and justify those inferences from the data matrix.

3.23 Group Decision Making: An Example. Group and individual decision making have a number of similar steps: to identify a problem or issue; to collect and verify data; to deal with alternative solutions; to incorporate the decision into the milieu of the group and/or society at large. There is, however, an added dimension when a group is involved in the decision-making process. That dimension involves the joint functioning of people to reach a decision. One needs only to reflect on the number of decisions made by groups to realize the importance of the group decision-making process. It should also be noted that group decision making is usually viewed as superior to individual decision making amidst conditions of uncertainty (Luce and Raiffa 1957; Kelly and Thebaut 1969).

Group decision making also provides for procedures such as the sensing of interaction difficulties, diagnosing interaction problems, and implementing measures to alleviate such problems. The leadership which evolves in group decision making is critical to the operation of the group (Fielder 1964). Research data suggests that the decision-making procedure adopted by a group influences the quality of the final decision (Deutsch 1949a; Deutsch 1949b; Zander and Wolf 1964; Kelly and Thebaut 1969). The principal procedures are the minority control technique, the majority vote technique, and the consensus technique. Respectively they reflect decisions by a minority of the group, decisions by a majority of the group, and decision by agreement of the entire group.

Numerous learning activities are designed to achieve group decision making. Examples from the High School Geography Project include "Portsville," "Metfab," and "The Game of Farming." Minor modifications of the activities permit the analysis of specific group decision-making processes. One modification could involve different groups employing each of the three techniques. At the conclusion of the activity the class could describe what went on within each group and evaluate the resultant decision in light of the techniques. The pros and cons, do's and don'ts, and skills necessary for each technique can be identified.

* * * * * * * * * * * * *

Group decision making may also be applied to the decision to change residences. In this instance the decision will be made by a family with members having their own roles and special interests.

Episode B

The Johnson family is considering changing residences and has located a home in the suburbs which they like. Using the following data, help the Johnsons make the decision about moving. You will play one of the following roles.

Henry Johnson . . . Father, 33 years old, a computer technician whose job is secure and pays reasonably well.

Mildred Johnson . . Mother with close friendship ties in her present neighborhood.

Kathy Johnson . . . A ninth grader active in school organizations who has always attended school with the same group of students.

Bill Johnson. . . . A seventh grader who has just made the junior varsity football team.

The educational objectives for the episode call for students to be able to:

(1) identify the steps in the decision-making model,

(2) identify the final decision as either the minority control, majority vote, or concensus technique,

(3) describe the application of steps in the decision making model as they apply to personal decisions.

Data Matrix: The Johnson Family

	Variable	Present Residence	New Residence
1.	Residential Investment	$21,000 (payments $195/month)	$29,500 (payments $255/month)
2.	Moving Costs	None	$1050
3.	Journey to Work		
	a) distance to travel	7 miles	28 miles
	b) travel time	20 minutes	60 minutes
	c) means of travel	car	car
	d) travel costs	15¢/mile	15¢/mile
	e) parking costs	$1.60/day	$1.60/day
4.	Taxes	$540/year	$880/year
5.	Services		
	a) distance to hospital and medical center	2 miles	12 miles
	b) telephone	$7.80/month	$9.50/month
	c) television	free	free
	d) water, electric, sewage	$4.00/month	$6.00/month
	e) distance to shopping center	2 miles	8 miles

f) distance to school		
i) junior high	*1 mile*	*3 miles*
ii) senior high	*2 miles*	*4 miles*
6. Social ties		
a) average age of residents	*43 years*	*37 years*
b) average distance to visit friends	*1 mile*	*33 miles*
c) youth activity clubs	*three*	*none*
d) malt shops	*one*	*none*

Instructions to students:

You are going to participate in making a group decision as one member of a family of four. The question your family faces is whether to change residences. Use the information in the data matrix and the description of the Johnson family to arrive at a decision. Consider the interaction among family members as the question is addressed. Is there an effort to arrive at a consensus decision or is the decision process dominated by one individual? Make inferences and educated guesses from the data if you require additional information.

Suggestions to teacher:

The students may again request additional data. They may want to know Mr. Johnson's annual salary. It is $12,000. Suggest to students that they may want to make inferences about the Johnson family's behavior and justify those inferences from the data matrix table.

3.24 Decision Making in Geography: The Opportunity. Decision-making situations within a geographic context are available from a wide range of topics. The following list suggests some relevant topics that might be used to incorporate decision-making experiences into a geography curriculum.

Topics for Decision Making in Geography

Environmental Issues	Resource extraction (strip mining, off shore oil, etc.)

Environmental Issues, cont.	Resource transmission (oil pipelines, electrical transmission lines) Park lands design Land uses and the environment Nuclear testing
Social Issues	Desegregation of schools Redistricting congressional districts
Urban Issues	Rapid transit Suburban growth-inner city deterioration Ghettos
Transportation	Airport location Highway building Revitalizing the railroads Mass transit systems
Public Policy	Sale of public lands Property taxes Wilderness areas
Politics	Israeli-Arab confrontation Stability in southeast Asia South Africa and apartheid
Local Questions/Issues	Agenda for city or county commissioners Economic development Locating a new school Zoning

By providing opportunities for decision making, geography in the future will meet two important educational objectives. First, in learning the processes involved in rational decision making, students will gain the skills necessary to make informed decisions. Secondly, and probably more important, teaching decision-making skills to students will help bring them to the "threshold" of social participation. The gap between school and "real life" will close as students apply the skills learned in school to the decisions which confront them as individuals and as citizens.

3.3 Values Education in Geography

3.31 Values Education: The Components.

> The homes of factory laborers are arranged in monotonous rows close to the factory itself. What open areas are visible? Where would children play? Do the houses exhibit different architectural styles? What could be done to provide relief from this drab environment? In the right background the railroad tracks and yards have penetrated the heart of the city, occupying land that might have been used for other purposes. Preston possesses the basic elements of the new industrial city--the factory, crowded housing and the railroad. (*The Rise of the City* 1971, p. 312.)

This is a description of the industrial city in the Field Educational Publications text, *The Rise of the City*, which presents an "urban approach to world geography."

Your school has adopted this text for the geography course. You are the teacher. What would you do with this passage and others like it in the chapter? The text offers suggestions for questions like the following: "What advantages would living in Preston offer?" "Can you think of any disadvantages?" (*The Rise of the City* 1971, p. 312) Mention is made of Ebenezer Howard's principles regarding what should or should not be included in controlled city growth and development. The consequences of social legislation and housing codes is also explored.

If you were interested in discussing values with students, the cited passage and others like it certainly provide the opportunity. The paragraphs are loaded with value objects, value transmission, and value judgments. But what does the classroom teacher do with this opportunity? Our guess is little or nothing. Why? Probably because few teachers understand values education.

It is convenient and often helpful to view values education as consisting of values transmission, values analysis, values judgment, and analysis of values judgments. Values are transmitted overtly or covertly through concepts such as land-use planning, contour plowing, career placement, freedom of speech, private enterprise, marriage, Americanism--to name a few. Values and value judgments are analyzed by dismantling them into their constituent parts and investigating each part thoroughly. Value judgments occur when someone rates, ranks, evaluates, or assesses a value from a particular point of view (e.g., moral, aes-

thetic, economic).

Doesn't geography do these things presently? As the initial quotation from *The Rise of the City* suggests, the descriptive nature of classroom geography instruction does promote values transmission. For example, geography students reading *The Rise of the City* will probably learn that industrialization had a strong, and in many ways negative, impact on society; they will also learn that our forefathers viewed and used land in a fairly prescribed manner and that people today continue to use land in much the same manner. However, a counter position seldom considered in the classroom is that all land is subject to any use an individual assigns it; the assigned use may depend on the land's value aesthetically, monetarily, or both. The first example demonstrates transmission while the second requires an analysis of values and value judgments.

Similarly, the exotic people and places approach to geography contains little analysis of values and values judgments, despite claims to the contrary. In the past it was believed this approach to geographic study automatically involved values analysis. Certainly the potential for analysis was present, but discrepancy between the value systems of students and those of different cultural groups made analysis of values and values judgments extremely demanding.

A case in point is the persistent regard for age and its accompanying wisdom within the Chinese culture. While American students easily recognize the Chinese valuing of age, they find it difficult to analyze that particular value, especially since they often have a very different value regarding age.

An equally challenging task in values education is dealing with values judgments and analysis of those judgments. The intellectual operation is sophisticated and usually influenced by cultural bias. Yet because values judgments are dependent in part upon data, any judgment can be analyzed by determining whether "the data suggest or may be interpreted to support the conclusion that..." In attempting to incorporate values judgments into curriculum, teachers should remember that analyses and judgments are among the highest order of intellectual operations and are never easy in an instructional situation.

Values transmission, on the other hand, presents few difficulties. In the future values transmission will probably continue essentially as it has in the past--through the family, extended family, social groups, and society in general. As a vehicle for society, education plays a role in transmitting values. Although values transmission in education is important, it is intellectually less demanding than values analysis and judgment, and, in our view, should receive less attention.

3.32 Values Education: Teaching Processes. A primary responsibility of all educators is to develop in students at all levels and at the earliest age possible, the skills which will enable them to analyze values and value judgments as well as to make rational value judgments. The objectives of the values education we propose call for students to be able to:

(1) identify values objects and statements,

(2) describe the conditions in which the values objects reside or values judgments are made,

(3) make personal values judgments, and

(4) describe the context in which the judgments are made.

The list is not exhaustive; it could be extended or the objectives further subdivided. Even so, if these objectives are met, students will be equipped with the know-how to identify rational or defensible values.

Several conditions must be met to attain the above objectives. The following list suggests four such conditions (Coombs 1971).

(1) The purported facts supporting the judgment must be true or well confirmed.

(2) The facts must be genuinely relevant, i.e., they must actually have valence for the person making the judgment.

(3) Other things being equal, the greater the range of relevant facts taken into account in making the judgment, the more adequate the judgment is likely to be.

(4) The value principle implied by the judgment must be acceptable to the person making the judgment.

Creating the conditions listed above is the task of the classroom teacher. It is not a simple task although at times the value object

makes it easier. The first condition reflects the standard expected in all educational settings, i.e., the facts involved must be true or well confirmed.

The second condition is more difficult for teachers because they seldom have any formal training in rating a value object, either empirically or theoretically. For those unfamiliar with valence assignment in values analysis the following example involving land use change should be helpful.

The residents of a particular neighborhood are plauged with on-street parking by workers in a nearby factory. Whereas workers in earlier days arrived by bus or trolley, most now have private autos which they drive to work. Parking space is very limited and workers frequently report late because they are unable to find parking places quickly. The only available open space for parking is a nearby community park which is also the only open green space remaining in the community. Some persons feel the park would make a desirable parking area; others disagree.

After identifying the values issue, the first task is to collect factual statements regarding the issue and assign a valence to each. This can be completed through the use of a values chart like the following:

***Value Object:** Land Use Change (Park to Parking)*

*Concerns**	*Positive (+) Valence*	*Negative (-) Valence*
Economic	*86% of all factory workers arrived by car. Factory workers demand parking space. Factory is largest employer in community. Park is not taxable. Parking lot is taxable. All adjacent land is in use. All adjacent land is high value.*	*Not all workers arrive by car. Park is accessible to total community. Inefficient use of cars. Park is extremely valuable since it is only open land remaining in area. If factory relocates it will be away from area.*
Practical	*Workers must park near their employment. Streets in area are over parked with cars during work shifts.*	*Factory encourages additional workers to utilize other transport means. Park provides setting for noon time recreation by workers.*
Ecological	*Removing street parking will make streets more appealing.*	*Park is aesthetically appealing. Open space in park is enjoyed by total community. Additional open space is not available for park relocation. Pollution of environment with exhaust*

Concerns*	Positive (+) Valence	Negative (-) Valence
Ecological cont.		as individuals continue to drive private cars.
Probable Biases	Parents are employed by factory.	People our age use the park. People our age are ecology oriented.

*Modified from Coombs (1971)

The value object chart reflects the valence, positive and negative, for each fact related to the land use change question.

At this point in the example the student has progressed through four of six stages of a values analysis strategy proposed by Coombs and Meux (1971). (1) the students have identified and clarified the value question or object--in this case land use change; (2) facts related to the proposed land use change have been assembled and organized; (3) the validity and reliability of the purported facts have been verified; and (4) nonvalid, nonreliable facts have been eliminated from consideration.

The fifth stage in the values analysis procedure is attaining a tentative value decision. The data are retrieved from the statements of fact shown in the chart. Each fact is assigned a logical weight in relation to the values object. The value decision justified by the data must then be formulated. It is highly probable that intrapersonal conflict will occur since the assignment of weights will vary according to personal preferences. The ability to identify biases operating (both overtly and covertly) and consider their probable influence on a value decision is critical in values education.

Principle acceptability testing is the sixth and final stage of values analysis outlined by Coombs and Meux (1971). Most value judgments in geography or social studies will involve a rather definite weighting of facts in arriving at a final position. The inadequacy of weighting necessitates undertaking several tests to assure that the judgment decision is not decisively biased in a particular direction. Coombs and Meux (1971) recommend four evaluative techniques for assessing value judgments.

The first technique is the new cases test. The evaluator must

determine whether the values judgment applies to additional cases in which the judgment and associated factual information are logically relevant. For example, in the land use question if the value judgment that the park should be reserved is accepted, would the same judgment prevail in the case of a hospital which needed the park for a new intensive care unit?

The second evaluative technique is referred to as the subsumption test. Does the stated value principle apply more readily under a more inclusive category? In the land use questions, for example, perhaps the principle "changes in land use must be enacted to provide the greatest possible benefit to the greatest number of people" is the more appropriate values premise to propose.

The third evaluation is called the role exchange test. The object of such a test is for students to imaginatively exchange roles with another person affected by the values principle in question. For example, a student might be asked to play the role of a factory worker who is late to work as a result of not finding a parking place and to consider what that person's stand would be on future park use.

The final test recommended by Coombs and Muex is the universal consequences test. The universal consequences test requires the student to consider what would happen if (1) everyone observed the land use principle, or (2) everyone ignored it.

3.33 Values Education: Examples. The values analysis strategy developed above can be applied to many cases existent in current geography or social studies instructional materials. One such source is *Our Working World: Regions of the U.S.* (Senesh 1973). Rich in examples of values transmission and judgment, it provides countless cases appropriate for analysis. In chapter ten, "Hawaii Region with a Blueprint," for example, several topics lend themselves nicely to analyzing values and value judgments. A major idea stressed in the chapter is that Hawaii's recent development was strongly influenced by mainland whites and that this situation resulted in conflict between the values of the native groups and those of the New England shippers and missionaries. In a series of brief readings, students are presented data from which a native Hawaiian philosophy and a colonial American philosophy may be generated.

The teacher's guide includes character sketches portraying values and values judgments. In specific cases students are asked to decide how Hawaiians and New Englanders would react. In the end "...the students should be able to cite several examples of how the values of New Englanders and Hawaiians would have been in conflict" (Senesh 1973, p. 185).

Less rich in examples and calling for more teacher expertise is the material in *The Story of Latin America* (Greco and Bacon 1970). A discussion of birth and death rates in Latin America (pp. 86-91) shows that Latin America had the highest average population increase per thousand people of any continent during the period 1960-67. The material also suggests such a growth rate is "...cause for alarm." Using this example, a teacher could have students identify the value being transmitted, i.e., a high population growth rate is cause for alarm. This value could then be applied to different areas in the world at different time periods. Analyzing the value judgments reached will require a degree of speculation by the teacher since students are provided little data in the book. Despite this drawback, students can learn to apply an analytic procedure in circumstances where verifiable data is minimal.

3.34 Values Education in Geography: The Opportunity. Values education in social studies has received considerable lip service during the past several years, but values education seems not to have progressed beyond values transmission in most classrooms. Teaching values is still more common than teaching values analysis.

Certainly the classroom is not going to be a values-free arena. Virtually everything the teacher does, the materials contain, the school administration enforces, and the students reflect are products of values-laden judgments. The only remaining option in the school milieu is to provide an open and expressive environment for the analysis of values issues. The goal for the social studies classroom must be to provide a place for students to learn to distinguish objectivity from bias, to separate fact from fantasy or opinion, and to experience the values analysis process. Geography can provide such an environment.

3.4 Conflict Resolution in Geography

3.41 Conflict Resolution: A Model. Almost as inevitable as decision making and value questions in everyday living is conflict. An almost ubiquitous phenomenon, conflict seems an integral part of nature, occurring in many circumstances and with varying degrees of intensity. The zone of contact between two contrasting air masses is an example of a conflict. Under extreme conditions, the contact between high velocity winds and the land or water over which they pass represents conflict. In human terms, the space between different culture groups is often a zone of conflict. Boundaries separating national units with divergent social, political and/or economic views are potential if not actual sources of conflict. Subnational groups within a nation may also manifest conflict. Conflict can occur between two individuals in a highly restricted space. Even an individual may be in conflict with his conscience.

It seems quite likely that the number, and possibly the intensity, of conflicts have outpaced the increase in the total number of humans on earth. Unquestionably, attempts to study, analyze, and predict conflict have increased. Psychologists, sociologists, political scientists, and economists are among the social scientists endeavoring to understand and manage human conflict.

Several characteristics are common to all conflict. First, the condition of incompatible phenomena is essential. Second, resistence is met in the attempt to overcome the incompatibility. And third, the simultaneously occurring conditions have a location and take place over a period of time. A simple model of this situation could look something like this:

Identify Issue → Resist Proposed Resolution → Diagnose Conflict → Prescribe Solution → Operationalize or Test Prescription → Resolve or Control the Conflict

The model addresses phenomena which have spatial and temporal components, i.e., place and time. Space or time should not be precluded from being the point of conflict. The spatial aspects of the model are upper most in geographers' minds but they do not exclude temporal processes.

The teacher dealing with conflict has a two-fold responsibility. First, the cognitive content or initial issue in which the conflict is

imbedded must be handled. Secondly, the group processes or interactions which lead to conflict must also be dealt with. In the course of solving a problem, a decision may evoke a conflict which blocks the decision-making process; at that point the sensible action is to manage the conflict in a way which allows the decision-making process to proceed. The teacher has to manage cognitive content and become sensitive and skillful in handling individual and group dynamics--not an easy task.

A number of excellent references on conflict management exist. (Lewin 1948; Nye 1973; Walton 1969) The classroom teacher, especially the social studies and more particularly the geography teacher, needs to be able to manage intergroup conflict situations which occur in conjunction with classroom learning experiences. This may involve no more than establishing a classroom climate where it is normal to ask: Why are you getting angry? Why can't you try to understand my side of the argument? How would you like it if you were in the other person's shoes? Why do you always have to have your way? What are we arguing about? Why don't you want to compromise? Establishing an "open" classroom in which students feel free to express personal emotions relating to an issue is a beginning in providing useful learning experiences in conflict management and resolution.

Perhaps the less complex and sensitive aspect of conflict is spatial, i.e., the geography of conflict. In this context the focus is on *where* the conflict occurs, and a different set of questions becomes significant. Why does the conflict occur in one place and not another? What would happen if we were to change the location of one factor or another? What will result if we locate this next to that? What will happen if we increase the intensity of this or of that?

The situations in everyday life to which these questions may be, or perhaps should be, applied are legion. For example, there is a heavy reliance on nature for energy sources. As population and level of technology increase, there are greater demands on our planet for nonrenewable energy fuels. The extraction of those fuels usually has negative consequences, such as depletion of finite sources and disruption of natural landscapes. These consequences trigger conflict--conflict between man and nature as well as conflict between diverse interest groups.

The conflict between humanoids and nature involves introducing change in nature's scheme which is so great and rapid that balance or adjustment by nature is upset. Some thoughtful individuals are concerned that the balance may already be upset beyond the point of no return. The end result may well be the complete dissolution of our planet as it is presently known. Out of this has evolved conflict between groups of individuals, each arguing a different and conflicting point of view. The stakes are high; the risks are considerable.

3.42 Conflict Resolution: Geography's Role. What role does geography play in the foray? How are students equipped to deal with conflict as active social participants? These questions must be raised continually. Geographers, psychologists, sociologists, economists and other social as well as physical scientists have an obligation and responsibility to seek answers to such questions.

Much can be done in geography instruction. Within existing materials are numerous examples of conflict which lend themselves to analysis. However, in most instances teachers will need to modify materials to conveniently deal with conflict. For example, in the Follett Educational Corporation text, *Exploring Regions of the United States*, fifth grade level, there is a section dealing with early settlements in which the question, Where did the colonists decide to settle? is raised. Students read:

> During the next 17 days the colonists explored the region. The land was a flat plain, low and sandy, and covered with large trees. Finally they sailed up a wide river, which they named the James River in honor of their king. They landed on a small peninsula about 40 miles from the mouth of the river.
>
> Some of the colonists thought the peninsula would not be a healthful place to settle. "This peninsula is only a few feet above sea level," they said. "It is covered with big trees, and there is no spring to provide drinking water."
>
> Others said, "This is a safe spot. We will have the river on three sides. We can easily defend the settlement from attacks by Indians or Spaniards, and we can tie our boats close to shore."
>
> After arguing awhile, they chose the peninsula for their home. On May 14, 1607, the colonists found the settlement of Jamestown. (*Exploring Regions of the United States* 1971, p. 92)

Since no directions or suggestions are presented in the guide for dealing with the conflict, teachers would have to create their own approaches. Minimally the conflict--the disagreement over where to establish the site of Jamestown--could be approached through a simple question and answer session. The class could be asked to discuss how they thought the colonists dealt with the disagreement. Other questions could include: What would the colonists argue about? What sometimes happens during arguments? Why? How might the colonists have settled their disagreement? What options did those persons in the minority have?

The discussion should include an assessment of the positive and negative attributes of conflict. On the positive side, conflict might: (1) elevate the level of energy directed toward solving the issue; (2) improve the conflict resolution skills of individuals involved in the disagreement; (3) increase the range of ideas resulting from the argument; (4) allow for a more innovative approach to the solution of the issue; and (5) help the individual or the group better understand the values involved in the position taken. On the negative side, conflict might: (1) become debilitating; (2) rigidify the positions of the parties involved; or (3) escalate into violence. The discussion could also be personalized by asking the students how they deal with differences of opinion.

At another level the material could be used in creating a scenario which would include various roles as well as various options in site selection. The activity could be structured by subdividing the class into several different groups, each faced with the same problem and the same data. Each group could be left to resolve the issue in any manner it chose, or each group could be instructed to resolve their conflict in a prescribed manner. In any case, the culmination of the activity would include a discussion and analysis of the various procedures each group used in resolving or controlling the conflict.

In other cases, teacher and students might develop role-playing activities based on local and current public issues. Researching data for each role, as well as writing and tabulating the collected data, are skills worth developing. Equally, if not more important, however, are the experiences gained in resolving--or attempts to resolve--the

conflict. Learning to comprehend the relevant information and make an articulate presentation amid counterpoints and arguments are skills which must be learned, applied, and practiced. Finally, the insights gained of one another's feelings, perceptions, attitudes, and values are among the capstone of experiential social studies learning.

3.5 Epilogue

Elizabeth Crane, were she living, would have more difficulty reciting the geographic facts of the world today than she did in 1826. Since her day, facts have increased to a number unmanageable by the human mind. Also there have been changes in the orientation of geography as a classroom discipline. Ms. Crane would no doubt be surprised if she were to read this review of geography and might even exclaim, "What happened to geography?"

Our intent was not to surprise Ms. Crane but to clarify some of the identity problems which geographers and geography teachers face today and to prod geography teachers into considering different foci as alternatives to geography's future. The foci we recommend result from allowing--nay, requiring--students to deal with issues and questions of their times in terms of three highly critical elements: decision making, values, and conflict.

Although existent in most geography instructional materials, these elements are seldom highlighted. Unless the teacher has a personal interest in them, they are apt to go unnoticed. We contend that geography curriculum developers in the future will need to concern themselves with these elements if the discipline continues to occupy a significant position in the social studies curriculum.

We are aware that we have omitted an entire chapter in the traditions of geography: maps, map skills, and place names. That omission was based on the belief that the voluminous literature on those topics is adequate. Undoubtedly those traditions will never drop from sight in the social studies classroom, but we feel they will become the tools which sharpen the edges and vitalize the spirit of decision making, values analysis, and conflict education in geography. Hopefully the application of traditional tools in opportune areas of the future will promote

new approaches to geography that will make this subject even more vital than it has been in the past.

ANNOTATED BIBLIOGRAPHY

Content Books on Geography

Alexanderson, Gunnar. *Geography of Manufacturing*. Englewood Cliffs, New Jersey: Prentice-Hall, 1967.

Using the United States as the primary example, the author compares other developed countries in discussing manufacturing within the context of world distribution of specific industries. A final chapter compares the following areas and their manufacturing characteristics: Japan, Australia and New Zealand, India, and Brazil.

Bach, Wilfrid. *Atmospheric Pollution*. New York: McGraw-Hill, 1972.

Global aspects of atmospheric pollution are presented in this text which focuses on a contemporary environmental issue. Pollution is defined and analyzed from meteorological and technological aspects. Some attention is devoted to the health and economic effects of air pollution. Methods for measuring and controlling pollution are also presented. A lengthy reference list is included with each chapter.

Berry, Brian J.L. *Geography of Market Centers and Retail Distribution*. Englewood Cliffs, New Jersey: Prentice-Hall, 1967.

The book deals with principles of hierarchy and spatial variation in applying the theory of central place. Using those principles, retail and distribution examples from Chicago and the Northern Plains states are analyzed. Underdeveloped countries and their patterns of market centers are also presented for analysis. Marketing science and the use of planning in market location and development are reviewed in the final chapter.

Cox, Kevin R. *Conflicts, Power, and Politics in the City: A Geographic View*. New York: McGraw-Hill, 1973.

Politics and power in American cities are analyzed first in the context of territorial organization of metropolitan areas and second in the context of metropolitan fragmentation and conflict. Implications of such problems and their effects on policy are discussed.

Davis, Kingsley, comp. *Cities: Their Origin, Growth, and Human Impact: Readings from Scientific American*. San Francisco: W.H. Freeman, 1973.

Five topics are dealt with in this book: (1) the origins of the city (old and new world); (2) the problems of health in the city (ancient and

contemporary); (3) town planning and town planning systems; (4) cities in the developing countries; and (5) social interaction and relations in the city. This collection of essays is characterized by interesting reading and sound scholarship.

Griffin, Paul F., ed. *Geography of Population: A Teacher's Guide.* Palo Alto, California: Fearon Publishers, 1969.

This book provides background information on "natural" population agglomerations and presents models for various types of demographic evaluation. A discussion of general world population includes case studies from giant agglomerations (China, India, Russia) and from areas of high density (the Nile Valley, West Africa, and Indonesia). Also included are studies of low density areas (parts of Canada and desert areas). The book is primarily a teacher's resource book.

Kariel, Herbert and Patricia Kariel. *Explorations in Social Geography.* Reading, Massachusetts: Addison-Wesley, 1972.

This introductory college textbook touches on numerous aspects of social geography. Each aspect is first discussed in general terms and then is illustrated by appropriate types of analyses and additional examples. The topics covered are housing, religion, methodology, food, language, literacy, land use, settlement, technology, spatial interaction, and spatial diffusion. Each topic is followed by a list of suggested activities and an extensive bibliography.

Lanegran, David and Risa Palm. *Introduction to Geography.* New York: McGraw-Hill Co., 1973.

The volume contains a series of readings dealing with geographic perception and the use of cartography and its effect on perception and spatial organization. Authors focus on problems and examples with a high motivational level such as the diffusion of cholera epidemics in North America and the development and diffusion of rock and roll music.

McCarty, Harold and James Lindberg. *A Preface to Economic Geography.* Englewood Cliffs, New Jersey: Prentice-Hall, 1966.

The book defines the content realm of economic geography. Hypotheses development and hypotheses testing techniques in the area of economic land uses are paramount. The basic factors studied in economic geography include the services (finance, transportation, communications) trade, manufacturing, the construction industry, agriculture, and mining. At the end of each chapter is a list of related background reading materials.

Morrill, Richard L. *The Spatial Organization of Society.* Belmont, California: Wadsworth Publishing Co., 1970.

This is a specialized college introductory text devoted to social geography. It covers a variety of subjects including commercial agriculture, central place theory, transport and trade interaction, and urban systems.

Rose, Harold M. *The Black Ghetto: A Spatial Behavioral Perspective.* New York: McGraw-Hill, 1971.

The geographical growth of the black ghetto and its economic development are analyzed in this book. Collective violence, political systems, educational systems, and human health in ghettos are reviewed with some attempt to indicate future trends.

Smith, David Marshall. *The Geography of Social Well Being in the U.S.: An Introduction to Territorial Social Indicators.* New York: McGraw-Hill, 1973.

This book presents a definition of social well-being in the context of geographic space. The problems of social well-being and their indicators (movement and territoriality) are discussed. Regional (state, interstate, and nation) and local aspects of social well-being are analyzed.

Vance, James E. *The Merchant's World: The Geography of Wholesaling.* Englewood Cliffs, New Jersey: Prentice-Hall, 1970.

This college textbook presents three aspects of the wholesaling industry in America. First, the book defines and describes attributes of the industry. Second, it discusses the distribution of the industry, looking at the rate of turnover, employment, and exchange. Third, the book focuses on wholesaling in the city.

Books on the Teaching of Geography

Bacon, Phillip, ed. *Focus on Geography: Key Concepts and Teaching Strategies.* Washington, D.C.: Fortieth Yearbook, National Council for the Social Studies, 1970.

This book presents the content aspects of contemporary professional geography as well as the application of that content by specialists in pedagogy. Content discussion includes location theory, spatial patterns and interaction, changing urban and regional patterns, and environment perception. Pedagogy topics include discussion of geographic learning, curricula evaluation, teaching strategies, and teacher preparation. Each chapter contains an extensive bibliography.

Biddle, D.S., ed. *Readings in Geographical Education: Selections Australian Sources, Volume I, 1954-1966.* Sydney: Whitcombe and Tombes, 1968.

Designed as a guide for teachers of geography, this book provides background on five basic topics in geography: (1) physical geography; (2) economic geography; (3) regional geography; (4) methodology; and (5) geographic description. It also includes ideas for teaching procedures involving direct observations, field trips, and out-of-classroom activities.

A third component of the book deals with indirect observation as well as the use of statistics, maps, television and other media in geographic education. Testing and evaluation of geographic learning are discussed briefly. Each chapter includes a basic bibliography.

Carpenter, Helen McCracken, ed. *Skill Development in Social Studies.* Washington, D.C.: Thirty-Third Yearbook, National Council for the Social Studies, 1963.

This yearbook follows up the 1953 National Council for the Social Studies Yearbook. It focuses primarily on developing a sense of place and space and using maps and globes. Specific suggestions for activities which incorporate essential skills are given for kindergarten through college levels.

James, Preston E., ed. *New Viewpoints in Geography.* Washington, D.C.: Ninth Yearbook, National Council for the Social Studies, 1959.

This book is oriented toward elementary and secondary teachers. It provides a general overview of the developments of thought, methodology, and contributions by geographers to the broad field of geography. The book also gives teachers general suggestions for teaching techniques, aids, and guidelines useful in organizing and implementing geography in the curriculum.

Kohn, Clyde, ed. *Geographic Approaches to Social Education.* Washington, D.C.: Nineteenth Yearbook, National Council for the Social Studies, 1948.

This book covers a wide variety of topics including human problems, societies and their habitats, differences between places, and relative location. Tools and objectives in teaching these topics are suggested. The implications for elementary and secondary teaching methods, courses, instructional strategies, and teacher education curriculum are discussed.

Kurfman, Dana G., ed. *Evaluation in Geographic Education.* Belmont: California: Fearon Publishers, 1970.

The intent of this book is to focus the question of educational evaluation directly on geography. It addresses cognitive, affective, and skills evaluation and includes models for evaluating geographic exercises and classroom tests. Each chapter contains an extensive bibliography.

Swartz, Robert D., John Ball, Fred E. Dohrs, and Merrill K. Ridd, eds. *Metropolitan America: Geographic Perspectives and Teaching Strategies.* Oak Park, Illinois: National Council for Geographic Education, 1972.

This book contains three interrelated parts. Parts I and II deal with an array of urban problems in the Detroit, Michigan and Winsor, Ontario areas. Part III presents geographic (urban) learning activities for the classroom. Every activity in Part III includes an introduction to the problem, objectives, a list of necessary materials, suggestions for eval-

uation, and a recommended classroom strategy. The learning activities, which are not limited topically or spatially to the Detroit area, have strong cognitive and skills components.

Walford, Rex. *Games in Geography.* New York: Longman Group, Ltd., 1967.

Six geographic simulation games are presented in this book: (1) the shopping game; (2) the bus service game; (3) the north sea gas game; (4) the railway pioneers game; (5) the development game; and (6) the export drive game. With each game is a description of needed materials, objectives, and possible strategies. An account of two classroom experiences in using games is given. The book's final section discusses the process for developing simulation games.

Walford, Rex, ed. *New Directions in Geography Teaching.* London: Longman, 1973.

Numerous suggestions and observations from the 1970 Charney Manor Conference, which focused on classroom activities and knowledge in geography are contained in this book for high school teachers. Teaching units, classroom activities, and role playing are topics with direct application. Developments in geography, such as models, simulation, fieldwork, assessment, and examinations, are couched in a pragmatic framework. Readers will find many enlightening ideas in these Conference papers.

Wisniewski, Richard, ed. *Teaching About Life in the City.* Washington, D.C.: Forty-Second Yearbook, National Council for the Social Studies, 1972.

This yearbook provides background materials primarily for teachers in inner-city schools. It also includes a photographic essay, suggested classroom activities, projects, and teaching strategies. The future of the city as seen by Constantinos Doxiadas and an essay describing the relationship between the social studies teacher and the future provide much speculative material to ponder.

Articles on the Teaching of Geography

Clegg, Ambrose A. Jr. "Geography-ing or Doing Geography: An Inductive Approach to Teaching Geography." *Journal of Geography* (May 1969) pp. 274-280.

The author investigates an inquiry process strategy in the teaching of geography using Taba's cognitive process model. The discovery of concepts and generalizations about land-use patterns was made by university students in the field study of a selected town. Application of the processes was then directed toward developing instructional methods for classroom use.

Craddock, Richard S. and Val Arnsdarf. "Geographic Inquiry in the Elementary School Via ETV." *Journal of Geography* (May 1971) pp. 269-275.

The author discusses the utilization of television in a non-expository, inquiry-oriented manner at three elementary school levels. Eight fifteen-minute programs are involved. All concentrate on a single geographic concept and three or four significant generalizations. Also included are skills which a geographer might employ. The eight programs include: Sections of a City, People Make a Difference, The Idea of Location, Why Live Here?, Can You Predict?, What Is a Region?, How Places Change, and Why Places Change. A teacher's guide provides preparatory exercises and follow-up activities for each program. This educational television experience reeducates the teacher and provides the framework for inquiry/discovery learning.

Ellis, Arthur K. "The Utilization of Aerial Photographs to Investigate Land Use Change." *Social Education* (December 1970) pp. 882-885.

This article examines the use of aerial photography at the intermediate level in the investigation of surface features. The photos, obtainable at local universities and governmental agencies, help familiarize the student with man's impact on the environment as well as provide a base for map construction. Through examination and inquiry, the student begins to recognize certain features appearing on the landscape from photos taken over an extended period of time. Interest should continue land-use investigations in the student's locale.

Glowacki, Walter M. "New Trends in Secondary School Geography." *The Social Studies* (March 1973) pp. 131-134.

The main thrust of this article is to examine the educational significance of the High School Geography Project with its emphasis on conceptual thinking, student inquiry, and analysis. The author describes the sequential units in *Geography in an Urban Age* and explains how they provide insights into professional geography. Spatial interaction, cultural diffusion, environmental perception, and other topics of scientific research are examined by the student through various activities.

Glowatski, Edward A. "Behavioral Objectives for Geography Facilitate Communication and Increase Test Performance." *Journal of Geography* (October 1973) pp. 36-44.

The article examines the employment of daily behavioral objectives as an effective method for increasing cognitive performance in geographic education at the university level. Testing procedures were employed on a control and experimental group of female university students with similar backgrounds. Statistical analysis of tests, student interviews, and observational conclusions suggest the success of using behavioral objectives and indicate an increase in student/teacher communication.

"High School Geography Project: Geography in an Urban Age." *Social Education* (November 1972) pp. 750-752.

Geography in an Urban Age, a year-long curriculum designed for ninth or tenth-grade use, reflects concern for thought processes as well as terminal learnings. While objectives are listed and possible situations for the activities are suggested, the materials are experientially based. The teacher is expected to debrief the experience by clarification of geographic concepts, generalizations, and models. As a result of this program, students experience the situations that confront professional geographers. While geographic perspectives become more meaningful to students through the individual and group work, participants also become actively involved in their own learning processes.

Hunter, John M. "Teaching to Eliminate Black-White Racism: An Educational Systems Approach." *Journal of Geography* (February 1972) pp. 87-95.

This article examines the sporadic progress made by the educational institutions in their role of changing racial attitudes. Alternatives for the reevaluation and adjustment of the black-white questions in terms of social purpose, curriculum, and teacher training are suggested. A compulsory introductory course is proposed on black-white relations for all incoming university students and inservice teachers, and dissemination of similar packages to elementary and secondary schools is suggested. For those interested in continuing formal black studies programs, the author provides a detailed description of the main attributes in a black world studies curriculum which focuses on five broad areas; comparative black world studies, continental African studies, black diasporan studies, black studies in selected areas other than the United States, and black studies in the United States.

Landing, James E. "A Teachable and Meaningful College Physical Geography." *Journal of Geography* (November 1970) pp. 488-492.

The article examines an ecological approach to the teaching of physical geography at the university level. The author's course is divided into three ten-week units which examine the interrelated topics of man, land, water, and air. Part I outlines man and the land with a theme of study and summary provided for each week's study. Part II outlines man, water, and air. Part III outlines man and his stewardship over the earth's physical systems and gives the instructor the opportunity to examine man's interrelationship with the physical environment.

Lewinski, Marcel. "A High School Geography Field Study." *Journal of Geography* (October 1969) pp. 424-425.

This article examines an extended field study which was a meaningful learning experience in a high school curriculum and provides an outline of the organization and execution of the study. Relationships between man and the physical/cultural environment were the study's main purpose. Planning and preparation were carried out by each student as were follow-up activities and written summaries. Through this process students

became aware of field projects and interest was generated in the social studies, especially geography.

Mausel, Paul W. "An Introductory Approach to Soils in Geography Instruction." *Journal of Geography* (January 1970) pp. 30-36.

The article examines the role of soils geography at the introductory level and offers materials for the teacher with a limited soils background and a minimum of time to teach the topic. A classification system, with selected characteristics of nine soil orders, is provided as a tool for the development of soil concepts. Relationships between soils and other environmental phenomena are suggested by two analyses and examples of soil. Recognition of soils, relationships between soils, and geographic concepts are formulated in the activity.

Meyer, Douglas K. "The Photographic Essay in Geographic Instruction." *Journal of Geography* (September 1973) pp. 11-26.

This article discusses the slide presentation as an effective instructional media for teaching geography at elementary and secondary levels. Proper slide organization, class objectives, suggested photo essays, and photographic composition are examined.

Rainsbury, Ron. Introducing "The Quad." *Journal of Geography* (March 1969) pp. 159-160.

The author examines the classroom use of quadrangle maps as an enjoyable learning activity in developing map-reading skills at the sixth-grade level. After the teacher provides basic information for map reading, a series of ten questions are answered by each student concerning his own map. The class is then divided into four committees with each member presenting his map and evaluating other members' maps. Background information concerning map-reading skills and the ten questions for each student are provided by the author.

Rimmington, Gerald T. "Geographic Models and the Concentric Approach." *Journal of Geography* (November 1970) pp. 464-468.

This article examines the concentric environmental curriculum and the inquiry models it serves. The concentric curriculum inquiry model incorporates larger segments of earth space as a unifying theme from which the analysis of spatial relationships can be made. Several models and examples are outlined for readers to help them link topics and arrive at systematic conclusions.

Schmieder, A.A. "Some Trends and Their Implications for Geographic Education." *Journal of Geography* (April 1969) pp. 208-215.

The article examines five recent national trends in education and suggests their relevancy to the teaching of geography; the trends are curriculum reform, pedagogical reform, training of teachers, educational relevancy, and international education. These trends indicate the need to help educators develop the teaching skills which will make geography at all levels more meaningful.

Stansfield, Charles A. Jr. "Using Census Data in Geography-Oriented Interdisciplinary Social Studies." *The Social Studies* (October 1972) pp. 202-208.

This article discusses the presentation of primary source material and census data in the high school classroom. The article includes a list of census topics, organizational suggestions, and presentation techniques. Whatever the theme of the particular course or student interest, census data provides meaningful interrelationships. The attempt to examine census data within a geographic framework is of particular significance.

Whitthuhn, Burton. "Puzzles, Relationships, and Locations: A Geographic Introduction to Africa." *Social Education* (February 1971) pp. 154-158.

This article has two principal objectives. The first is to effectively organize geographic facts through the use of six mapping puzzles of the African Continent. The map puzzles are organized into a framework which expresses the interrelationships of the information. The student becomes familiar with place names, physical characteristics, and regional descriptions of Africa through map work and active class participation. The second objective is to generate interest in Africa while promoting class discussion and encouraging independent questioning by each student. The method emphasizes the inquiry process rather than memorization of geographic facts.

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